Sustainability Roadmap
December 31, 2021
California Department of Justice

Progress Report and Plan for Meeting
the Governor's Sustainability Goals
for California State Agencies

Office of the Attorney General

Gavin Newsom, Governor

December 31, 2021

Sustainability Roadmap December 31, 2021

California Department of Justice (DOJ)

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Executive Summary

The California Department of Justice – Office of the Attorney General (DOJ) is a constitutional office representing the people of California in civil and criminal matters before trial, appellate and supreme courts of California and the United States. DOJ occupies 95 facilities statewide totaling 1.8 million square feet. Eight of these locations - totaling 174,000 square feet - are DOJ-owned laboratories. The remainder of the facilities are leased by DOJ from private parties, the Department of General Services (DGS), or other government entities.

DOJ is made up of more than 4,500 lawyers, investigators, sworn peace officers, and other employees who provide leadership, information, and education in partnership with state and local governments and the people of California to:

- Enforce and apply laws fairly and impartially.
- Ensure justice, safety and liberty for everyone.
- Encourage economic prosperity, equal opportunity and tolerance.
- Safeguard California's human, natural and financial resources for this and future generations.

DOJ has prepared this Roadmap in response to the Governor's Executive Orders (EOs) and various sustainability mandates and policies (Appendix G, page 66). It describes the goals, steps, and plans to achieve sustainability objectives for the eight buildings owned by DOJ. For buildings occupied by DOJ but owned by DGS, DGS ensures sustainability compliance on them. Where buildings are occupied by DOJ and owned by a private lessor, DOJ works toward ensuring DOJ staff, practices, operations, occupants, and programs are compliant with applicable policies where feasible within these leased buildings. This report covers DOJ's efforts up to the end of 2020, and DOJ's plans for the future.

DOJ strongly supports sustainability values and green initiatives. DOJ has an Environmental Section that enforces state and federal environmental laws affecting California's natural resources, communities, and public health, a Natural Resources Law section representing multiple state agencies responsible for natural resources management or pollution control, and a Land Use and Conservation Section, which represents the state in land use litigation and cases involving lands that the state owns and administers for resource conservation, recreation, or development. Although DOJ's attorneys investigate and litigate matters concerning global warming, hazardous waste, air and water pollution, and natural resources conservation - all part of sustainability - this Sustainability

Roadmap focuses primarily on sustainability efforts for the eight forensic laboratory facilities owned by DOJ.

There are 5 chapters in this roadmap: (1) Climate Change Adaptation, (2) Zero Emission Vehicles (ZEVs), (3) Energy, (4) Water and (5) Green Operations. The following outlines some efforts DOJ is taking towards its sustainability goals.

Climate Change Adaptation

In a changing climate, DOJ employs climate adaptation strategies for its facilities to help reduce climate risks. In regard to new construction, leases, and landscape/facility projects, DOJ will consider the following:

- Temperature changes (including extreme heat events).
- Urban heat island effect, drought, and wildfires.
- Precipitation changes (including extreme precipitation events).
- Sea level rise (e.g. flood risk).

Zero Emission Vehicles (ZEV)

Due to its operational needs, DOJ's fleet consists primarily of non-ZEV public safety vehicles and/or vehicles requiring large cargo/passenger capacity.[1] As a result, DOJ faces some challenges bringing ZEVs into its fleet. However, for those DOJ vehicles that aren't being used for public safety or carrying cargo, DOJ is replacing them with plug-in hybrid vehicles (PHEVs), followed by hybrid electric vehicles (HEVs) per State Administration Manual (SAM) 4121.1. To date, DOJ:

- Has 12 charging ports at 4 of the 8 laboratory facilities owned by DOJ.
- Has decreased vehicle fuel consumption emissions by 61 percent since 2010 compared to 2020 (addition of PHEVs and HEVs, as well as the pandemic, are contributing factors to this decrease).
- Is currently expanding a telework policy for employees, which is expected to reduce in-person meetings and vehicle use.

Energy

Between 2003 to 2020, DOJ's site energy use decreased overall by 11 percent. The size of this decrease was limited by the addition of three crime lab facilities since 2003 (prior to 2003, DOJ only had five crime lab facilities). However, site energy use in 2020 declined by 21% from 2019. This was likely due to the pandemic because most staff were placed on emergency telework throughout the eight labs. To reduce energy use and find greener alternatives, DOJ is currently:

1 In accordance with SAM 4121.1 & 4121.4, DOJ obtains exemptions from DGS for non-ZEV vehicles in its fleet.

- Collaborating with DGS, utilities, and energy companies to seek energy audits and lighting fixture alternatives such as light-emitting diodes (LEDs) for laboratories that are owned by DOJ.
- Collaborating with DGS to seek on-site solar generation options.
- Expanding a telework policy for employees (that includes office sharing and hoteling), which is expected to reduce energy consumption at worksites.

Water

Between 2010 and 2020, DOJ reduced overall water usage by 53 percent. DOJ has placed a significant amount of effort into reducing its water use. This is mainly due to shutting off water irrigation at the Redding site in response to CA's drought. Other DOJ water conservation efforts are listed below:

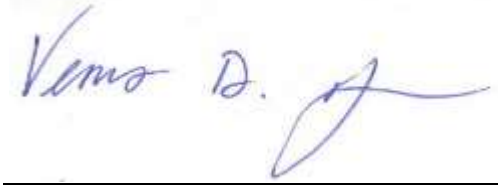
- DOJ received a water conservation grant from DGS in 2015 and was able to install a water treatment system at four DOJ locations to save water long-term.
- DOJ is working with DGS on installing a water system that reclaims used water from the cooling towers to reuse it for landscape irrigation.
- DOJ is working with outside organizations, including landscape architects, to assess DOJ's landscape with the possibility of converting it to a more drought tolerant environment.

Green Operations

DOJ incorporates green practices into its operations. Since 2010, DOJ has reduced its greenhouse gas (GHG) emissions by 48 percent, which was accomplished by increasing the amount of fuel-efficient vehicles in its fleet and reducing overall energy use. DOJ also reduced its waste by 12 percent between 2018 and 2020 and met a number of recycling goals in regard to purchasing requirements. Other notable accomplishments include:

- Creation of an Integrated Pest Management Policy to use more environmentally friendly options (2021).
- Development of an Organic Waste Recycling Program (2021).
- Bringing Environmental Preferable Purchasing (EPP) education and State Agency Buy Recycled Campaign (SABRC) awareness.

DOJ is making progress toward achieving the targets and requirements of the Governor's EOs and is committed to accomplishing these goals (Appendix F, page 65).



02/25/22

Venus D. Johnson
Chief Deputy to the Attorney General

CHAPTER 1 - CLIMATE CHANGE ADAPTATION

Executive Order B-30-15 directs State Agencies to integrate climate change into all planning and investment. Planning and investment can include the following:

- Infrastructure and capital outlay projects
- Grants
- Development of strategic and functional plans
- Permitting
- Purchasing and procurement
- Guidance development
- Regulatory activity
- Outreach, and education

Climate Change Risks to Facilities

For all infrastructure, it is important to assess the risk a changing climate poses to an asset or project (e.g., sea level rise or increasing daily temperatures). It is also important to recognize the impact an infrastructure project has on the surrounding community and the impacts on individual and community resilience (e.g., heat island impacts).

Using the information outlined in this roadmap, DOJ can better determine how to consider climate change for a given project, plan, or existing infrastructure. DOJ will consider climate adaptation strategies when facilitating projects and replacing building systems. Strategies include:

- Evaluating whether the new project, materials, or system needing replacement will operate effectively in a changing climate (depending on climate risks existing for that particular location).
- Evaluating whether or not the new project, materials or system needing replacement incorporates Zero Net Energy (ZNE) approaches. Using ZNE approaches will make buildings operate more efficiently (see Chapter 3 Energy section).
- Take into account how the new project, materials, or system needing replacement will affect the staff (operational/health wise), surrounding community, and environment.

The sustainability team will work with DOJ facilities to implement informed decisions.

DOJ's portfolio consists of many non-state entity leased facilities, and climate adaptation changes are challenging to implement at these locations. In order to make any major changes, replacements, and renovations to leased facilities,

the lessor or owner of the property must agree to terms. The sections in this chapter will focus on the DOJ's forensic laboratories, which are department-owned and have less barriers to change in regard to climate considerations. DOJ intends to include leased sites on future assessments.

Understanding Climate Risk to Existing Facilities

Data in the following sections is from Cal-Adapt. Cal-Adapt provides a view of how climate change might affect California in the future. It contains tools, data, and resources to conduct research, develop adaptation plans, and build applications.

Risk from Increasing Temperatures

Under a changing climate, temperatures are expected to increase – both at the high and low end. As a result, facilities will experience higher maximum temperatures and increased minimum temperatures.

Table 1.1a: Lab Facilities Affected by Changing Temperature – Ranked by Highest Average Minimum Temperature by Mid-Century (2031-2060)

Facility Name	Annual Mean Max. Temp. (1961 – 1990)	Annual Mean Max. Temp. (2031 – 2060)	Annual Mean Max Temp. (2070-2099)	Annual Mean Min. Temp. (1961 – 1990)	Annual Mean Min. Temp. (2031 – 2060)	Annual Mean Min Temp. (2070-2099
BFS – Riverside	79.8	84.7	88.3	52	56.4	60.4
BFS – Redding	75.3	79.8	83.8	51.2	55.4	59.3
BFS - Fresno	76.7	81.8	85.8	48.8	53.4	57.4
BFS – Richmond	67.2	70.7	74.1	49.5	53.1	56.7
BFS – Ripon	74.6	79.2	82.9	47.9	52.2	56.1
BFS – Santa Barbara	69.7	73.4	76.5	49	52.2	55.3
BFS – Eureka	58.7	62.6	66.3	46.5	50.0	53.8
BFS – Santa Rosa	71.5	75.3	78.8	43.9	47.9	51.7

**Temperatures are listed in Fahrenheit*

In addition to changing average temperatures, climate change will increase the number of extreme heat events across the State. Extreme events are likely to be experienced sooner than changes in average temperatures.

Table 1.1b: Lab Facilities Affected by Changing Temperature – Ranked by Highest Average Minimum Percent Change by Mid-Century (1961-1990) to (2031-2060)

Facility Name	Annual Mean Max. Temp. Percent Change (1961 – 1990) to (2031-2060)	Annual Mean Max. Temp. Percent Change (1961-1990) to (2070-2099)	Annual Mean Min. Temp. Percent Change (1961-1990) to (2031-2060)	Annual Mean Min. Temp. Percent Change (1961 – 1990) to (2070-2099)
BFS – Fresno Forensic Laboratory	7%	18%	9%	18%
BFS - Santa Rosa Forensic Laboratory	5%	18%	9%	18%
BFS - Ripon Forensic LABORATORY	6%	17%	9%	17%
BFS – Riverside Forensic Laboratory	6%	16%	8%	16%
BFS - Redding Forensic Laboratory	6%	16%	8%	16%
BFS - Freedom Forensic Laboratory	5%	16%	8%	16%
BFS – Eureka Forensic Laboratory	7%	16%	8%	16%
BFS – Santa Barbara Forensic Laboratory	5%	13%	7%	13%

Table 1.2: Lab Facilities Ranked by Largest Increase in Extreme Heat Events by Mid-Century (2031-2060)

Facility Name	Extreme heat threshold (EHT)	Average # of days above EHT (1961-1990)	Average # of days above EHT (2031-2060)	Average # days above EHT (2070-2099)	Increase in Average # of days above EHT by mid-century (2031-2060)	Increase in Average # days above EHT by end of century (2070-2099)
BFS – Fresno	106.3	4	32	60	28	56
BFS – Riverside	105.2	4	21	45	17	41
BFS – Redding	107.1	4	21	49	17	45
BFS – Ripon	102.7	4	20	40	16	36
BFS – Santa Rosa	98.7	4	12	24	8	20
BFS - Freedom	90.2	4	8	16	4	12
BFS – Santa Barbara	89.1	5	9	21	4	16
BFS – Eureka	76.6	4	6	26	2	22

**Temperatures listed in Fahrenheit.*

When considering rising temperatures, the department looked at its laboratory facilities. In descending order, Table 1.1a lists the department's laboratories that are projected to have the highest annual mean maximum temperature during the timeframe of 2031-2060. While this is important, the Sustainability Unit decided to look at how the laboratories ranked by highest average minimum percentage change (Table 1.1b) as well. This data is significant because areas will experience a higher degree in change of cool temperature. Therefore, there is a need to focus on adaptation at these laboratories. Table 1.2 lists the laboratories with the largest average increase of days with extreme heat events. This type of event will (at least) double at most sites by mid-century, with a number of facilities increasing to over twenty days.

So far, the majority of the facilities have not reported extreme temperatures affecting their facilities. DOJ labs stay operational because the labs provide essential services to various agencies. DOJ plans on assessing each laboratory to determine the level of significance each lab serves for their location. This, along with the data from the tables above, will allow DOJ to further prioritize which buildings need attention first in regard to climate change adaptation processes.

Temperature is important at laboratories because laboratories contain evidence, samplings, and various equipment requiring proper care and storage under certain temperatures. It is essential that a laboratory's heating and cooling system operates correctly and efficiently. Further evaluation of how ambient temperature variances affect the workers, operations, and structural integrity of the facilities is needed. Looking into different ways to make the buildings more energy efficient, such as insulation or utilizing more heat reflective materials, is crucial.

Risks from Changes in Precipitation

The impacts of climate change on the amount of precipitation California will receive in the future are slightly less certain than the impacts on temperature. However, it is expected that California will maintain its Mediterranean climate pattern (dry summers and wet winters), but more precipitation will fall as rain than as snow. Larger rains can result in flooding, but will also result in shifts in runoff timing (earlier) and runoff volumes (higher). It will also result in decreased snowpack. Using data from Cal-Adapt, DOJ identified the precipitation risks for its lab facilities.

Table 1.3a: Lab Facilities with Projected Changes in Precipitation Ranked by Highest Annual Mean Precipitation Percent Change by Mid-Century (1961-1990 to 2031-2060)

Facility Name	Annual Mean Precip. (1961 – 1990) inches	Annual Mean Precip. (2031 – 2060) inches	Percent Change by mid-century	Annual Mean Precip. (2070 – 2099) inches	Percent change by end of century
BFS – Santa Rosa	29.8	35.3	18%	38.3	29%
BFS –Santa Barbara	16.5	19.5	18%	21.2	28%
BFS – Freedom	20.4	23.5	15%	25.4	25%
BFS – Ripon	11.3	13.0	15%	14.0	24%
BFS – Eureka	40.6	46.5	15%	47.8	18%
BFS – Fresno	11.6	12.7	9%	13.2	14%
BFS – Redding	41.5	44.9	8%	46.8	13%
BFS - Riverside	11.3	11.9	5%	12.8	13%

Table 1.3b: Lab Facilities with Projected Changes in Precipitation Ranked by Highest Extreme Precipitation Event Percent Change in a Water Year by Mid-Century (1961-1990 to 2031-2060)

Facility Name	Extreme Precip. Events in a Water Year (1961 – 1990)	Extreme Precip. Events in a Water Year (2031 – 2060)	Percent Change by mid-century	Extreme Precip. Events in a Water Year (2070 – 2099)	Percent change by end of century
BFS – Santa Rosa	1	2	100%	3	200%
BFS - Eureka	1	2	100%	2	100%
BFS -Ripon	1	1	0%	2	100%
BFS – Freedom	1	1	0%	2	100%
BFS - Riverside	4	4	0%	5	25%

Facility Name	Extreme Precip. Events in a Water Year (1961 – 1990)	Extreme Precip. Events in a Water Year (2031 – 2060)	Percent Change by mid-century	Extreme Precip. Events in a Water Year (2070 – 2099)	Percent change by end of century
BFS – Santa Barbara	2	2	0%	3	50%
BFS – Redding	1	1	0%	1	0%
BFS – Fresno	2	1	-50%	3	50%

**Water year (Oct. – Sep.)*

***An event is three days' duration with rainfall totals above an extreme threshold (in inches). Each location has its own extreme threshold.*

Tables 1.3a and 1.3b list the projected changes in precipitation impaction on laboratories. Almost a quarter of DOJ labs will experience at least a fifty percent increase in extreme precipitation events by mid-century. For the most part, the northern California laboratories experience more projected impact than the southern California laboratories. DOJ will determine which route is best to combat extreme precipitation events. Possible flood mitigation measures may include the implementation of rain capture systems or increasing soil health around the facility. Healthy soil retains more water, decreasing the impact of flooding.

Risks from Sea Level Rise

Increasing global temperatures contribute to rising sea levels. Rising sea levels will result in inundation of coastal areas and increased flooding due to storm surges. The California Ocean Protection Council (OPC) issued the State of California Sea-Level Rise Guidance (Guidance) for state agencies on what level of sea level rise to consider. The Guidance provides the estimates of sea level rise for the California Coast for all active tide gauges based on a range of emission trajectories, which are based on the report, Rising Seas in California: An Update on Sea-Level Rise Science, and recommends projections for use in low, medium-high and extreme risk aversion decisions.

Several tools are available to visualize rising sea levels. Cal-Adapt provides information for the San Francisco Bay and Sacramento-San Joaquin Delta. CoSMoS, a model developed by the National Oceanic and Atmospheric Administration, provides data for larger portions of the California Coast. Table 1.4 lists facilities at risk from rising sea levels in three distinct zones in California at four possible sea level rise scenarios. Using these scenarios, DOJ can better plan for its laboratories and other facilities.

Table 1.4: Lab Facilities at Risk from Rising Sea Levels

Facility Name	Tide Chart Region	2050 Water Level (ft)	Exposed at 2050? (y/n)	2100 Water Level (ft)	Exposed at 2100? (y/n)
BFS - Eureka	North Spit	1.2	Yes	3.1	Yes
BFS - Santa Barbara	Santa Barbara	0.7	Yes	2.1	Yes
BFS - Freedom	Monterey	0.8	Yes	2.3	Yes

Four laboratories are at risk based on projections. Similar to the flooding occurring from increased precipitation, sea level rise has the potential to cause flooding requiring relocation of sites or other adaptation actions. However, assuming further analysis indicates not all buildings will be able to be relocated, other measures to minimize impact need to be researched.

Risks from Wildfire

Wildfires are a serious hazard in California. Several studies indicate that the risk of wildfire will increase with the progression of climate change. By 2100, if GHG emissions continue to rise, one study found the frequency of extreme wildfires would increase, and the average area burned statewide would increase by 77 percent. Table 1.5a lists the impact of wildfires to DOJ laboratories. Data is from Cal-Adapt. Data in Table 1.5b was obtained from the California Department of Forestry and Fire Protection's Fire and Resource Assessment Program (FRAP). The Chico, Santa Rosa, and Riverside labs were found to be very close to the border of high-risk zones, so we decided to identify those labs as high risk or very high risk.

Table 1.5a: Impact of Projected Changes in Wildfire Ranked by Mid-Century (2031-2060) to DOJ Laboratories

Facility Name	Hectares Burned (1961-1990)	Hectares Burned (2031-2060)	Hectares Burned (2070-2099)
BFS – Ripon	11.8	21.4	25.3
BFS – Eureka	12.5	17.1	22.1
BFS – Freedom	11.5	13.9	12.9
BFS – Riverside	24.1	6.3	6.3
BFS – Santa Rosa	6	5.8	5.8
BFS - Redding	9.4	3.5	4.1
BFS – Santa Barbara	N/A	N/A	N/A
BFS – Fresno	N/A	N/A	N/A

Table 1.5b: Facility Fire Hazard Severity Zone

Facility Name	Fire Hazard Severity Zone (low, medium, high, very high)
BFS – Ripon	Low Risk
BFS – Eureka	Low Risk
BFS – Freedom	Low Risk
BFS – Riverside	High Risk
BFS – Santa Rosa	High Risk
BFS - Redding	Very High Risk
BFS – Santa Barbara	Low Risk
BFS – Fresno	Low Risk

Table 1.5c: Lab Facilities Impacted by Public Safety Power Shutoff (PSPS)

Facility Name	City	PG&E or SCE Territory?
BFS – Riverside	Jurupa Valley	SCE
BFS – Santa Rosa	Santa Rosa	PG&E
BFS - Redding	Redding	PG&E

Table 1.5c lists laboratories affected by utility public safety shut-off (PSPS) programs.

Wildfire poses a risk to our department. The Redding laboratory, for example has been temporarily closed on multiple occasions due to severe smoke and public safety power shut-offs (PSPS). These closures and their causes have impacted the health and safety of staff. The facility stocks personal protective equipment (PPE) such as carbon impregnated air filters, air purifiers, and masks to help ensure the safety of employees. Further analysis should be done to determine what other protective measures can be implemented.

Laboratory facilities contain generators with enough fuel for forty-eight hours in the case of power shut-off. With fire risks increasing every year, increasing power shut-offs, the department should consider stocking facilities with fuel to sustain operations for more than forty-eight hours. While the risk of PSPS currently impacts only four of the labs, several other DOJ labs are just outside of PSPS territory. With a steady increase of wildfires, DOJ will consider planning on more of the laboratories being affected by PSPS.

Heating and Cooling Degree Days

A Heating Degree Day (HDD) is defined as the number of degrees by which a daily average temperature is below a reference temperature. The reference temperature is typically 65 degrees Fahrenheit, although different utilities and planning entities sometimes use different reference temperatures. The reference temperature loosely represents an average daily temperature above which space heating is not needed. The average temperature is represented by the average of the maximum and minimum daily temperature. Similarly, a Cooling Degree Day (CDD) is defined as the number of degrees by which a daily average temperature exceeds a reference temperature. The reference temperature is typically 65 degrees Fahrenheit, although different utilities and planning entities sometimes use different reference temperatures. The reference temperature loosely represents an average daily temperature below which space cooling (e.g., air conditioning) is not needed.

Table 1.6: Lab Facilities with Projected Changes in Heating and Cooling Degree Days (HDD/CDD) Ranked by Most Cooling Days (2031-2060)

Facility Name	Heating/Cooling Degree Days (1961-1990)	Heating/Cooling Degree Days (2031-2060)	Heating/Cooling Degree Days (2070-2099)
BFS – Redding	2618/1977	1925/2913	1310/3889
BFS – Fresno	2610/1788	1848/2801	1232/3761
BFS – Riverside	1400/1727	852/2798	428/3839
BFS - Ripon	2647/1272	1870/2083	1267/2961
BFS – Santa Rosa	3052/369	2211/751	1484/1571
BFS – Santa Barbara	2305/243	1490/640	878/1208
BFS – Freedom	3112/111	2068/320	1218/861
BFS - Eureka	4537/8	3275/45	2111/317

Natural Infrastructure to Protect Existing Facilities

EO B-30-15 directs State agencies to prioritize the use of natural and green infrastructure solutions. Natural infrastructure is the "preservation or restoration of ecological systems or the utilization of engineered systems that use ecological processes to increase resiliency to climate change, manage other environmental hazards, or both. This may include, but need not be limited to, flood plain and wetlands restoration or preservation, combining levees with restored natural systems to reduce flood risk, and urban tree planting to mitigate high heat days (Public Resource Code Section 71154(c)(3)).

Currently, DOJ is researching drought tolerant landscaping for the Redding and Riverside laboratory locations. The department is working with outsourced

Landscape Architects to determine which plants work best for each lab's microclimate.

Understanding the Potential Impacts of Facilities on Communities

Vulnerable Populations

Climate change disproportionately impacts vulnerable communities, with certain populations experiencing heightened risk and increased sensitivity to climate change. These communities also have less capacity to recover from changing average conditions and more frequent and severe extreme events. A number of factors contribute to vulnerability, often in overlapping and synergistic ways. These can include a number of social and economic factors, and be determined by existing environmental, cultural, and institutional arrangements. Vulnerable populations can include, but are not limited to, people living in poverty; people with underlying health conditions; incarnated populations; linguistically or socially isolated individuals; communities with less access to healthcare or educational resources; or communities that suffered historic exclusion or neglect.

While there is no single tool to identify vulnerable populations in an adaptation context, there are a number of state-wide, publicly available tools that when overlaid with climate projection data can help identify communities most at risk to a changing climate. Some of these tools, including a definition for vulnerable communities, are available in a resource guide developed by the Integrated Climate Adaptation and Resiliency Program in the Office of Planning and Research.

DOJ labs provide forensic services to local communities that are not in close proximity to large metropolitan areas that provide such services. Take the example mentioned above in regard to the Redding Lab having to close due to a PSPS event - this puts the community around Redding at risk to being a "vulnerable community" because they do not have access to forensic services when there are urgent cases needing to be processed or when emergency lab equipment is required. If there were multiple lab services aside from Redding and in proximity with available services, then the community would not be vulnerable. To prevent issues like this from happening, DOJ must look for ways to set-up effective programs within Redding Lab to operate effectively even during a PSPS schedule.

Disadvantaged Communities

California is required to invest certain funding streams in disadvantaged communities (DACs). Many state programs that have DAC funding requirements use CalEnviroScreen, a tool ranking census tracts based on a combination of

social, economic, and environmental factors, to identify DACs. While it does not capture all aspects of climate vulnerability, it is one tool available, and does include several relevant characteristics. The department's facilities located in these communities can contribute or alleviate the vulnerability of these Disadvantaged Communities.

Table 1.7: Facilities Located in Disadvantaged Communities

Facility Name	CalEnviroScreen Score	Is it located in a disadvantaged community? Yes/No
BFS - Fresno	91-100%	Yes
BFS – Riverside	81-90%	Yes
BFS – Ripon	51-60%	No
BFS – Santa Rosa	51-60%	No
BFS – Freedom	41-50%	No
BFS – Eureka	31-40%	No
BFS – Redding	11-20%	No
BFS – Santa Barbara	No score	N/A

* A score of 75-100 percent indicates a facility is in a disadvantaged community.

Thirty percent of the department's laboratories are located in a disadvantaged community. The laboratories serve the disadvantage communities indirectly by providing forensic services to local law enforcement agencies that do not have their own forensic services.

The Fresno location can also be of assistance to emergency responders in the event of a power outage. Recently, Fresno received a portable electric vehicle charging station. This station utilizes solar panels for electricity generation and is not connected to the grid. If the community were to lose power, the charging station has household-style electrical outlets that emergency responders can utilize for power their equipment.

Urban Heat Islands

Urban heat islands are areas with localized spikes in temperature, which impact human health, increase pollution, and increase energy demand. Urban heat islands occur during the hot summer months in areas with higher percentages of impervious surface and less vegetation. This is likely in areas with large parking lots, dense development, and lower tree density and shading. Urban heat island effect can be mitigated (i.e., reduced) through tree planting, cool roofs (e.g., lighter roofing materials that reflect light), cooler pavements, and other measures. Table 1.8 shows if the laboratories are located in urban heat islands.

Table 1.8: Facilities Located in Urban Heat Islands

Facility Name	Heat Island Index*	Located in an urban heat island (yes/no)
BFS – Riverside	141-150	Yes
BFS – Redding	n/a	n/a
BFS – Santa Rosa	21-30	No
BFS – Fresno	31-40	No
BFS – Ripon	11-20	No
BFS – Eureka	n/a	n/a
BFS – Santa Barbara	n/a	n/a
BFS - Freedom	No Data	n/a

Only one of the department's laboratories is located in an urban heat island: Riverside. Our other facilities, although not located in urban heat islands, have made some adaptations. To reduce the effects of urban heat island and provide better insulation, six lab facilities coated their roofs with an elastomeric ("cool roof") material. This white colored material reflects sunlight and heat away from the facility, allowing the facility to stay cooler. Despite the lack of facilities located in urban heat islands, DOJ's Sustainability Unit intends to do more assessing at the facilities to help further minimize the effect of heat spikes. As mentioned above, the Sustainability Unit is working with landscape architects on the landscaping for Redding and Riverside. If this goes well, the expectation is that the department will roll the strategies out to other laboratory landscapes.

Understanding Climate Risk to Planned Facilities

DOJ currently has no approved plans for new construction facilities. However, any new, planned facilities will undergo climate adaptation screening to ensure the new facility incorporates climate adaptation strategies. Screening includes all climate risks mentioned earlier and approaches below.

Natural Infrastructure

Natural and green infrastructure solutions will be considered where new construction facilities are planned.

Full Lifecycle Cost Accounting

EO B-30-15 directs State agencies to employ full life cycle cost accounting in all infrastructure investment. Lifecycle cost accounting includes:

- Considering initial investment costs, as well as lifetime operation and maintenance costs under changing climate conditions, including changing average conditions and increases in extreme events.

- Applying non-market evaluation methods such as travel cost, avoided costs or contingent valuation to capture hard to quantify benefits and costs.

For future facility condition assessments, DOJ will include full lifecycle cost accounting.

Integrating Climate Change into Department Planning and Funding Programs

EO B-30-15 extends beyond infrastructure to broader planning efforts. In an effort to comply with this order, DOJ is working on a GHG reduction plan that includes solar and fleet transition planning projects. Furthermore, the department is also working on drought planning through landscaping with drought tolerant native plants.

Measuring and Tracking Progress

The department tracks its GHG emissions through the Climate Registry Information System (CRIS) and energy and water through the Energy Star Portfolio Manager (ESPM). Specific climate data is measured and tracked through spreadsheets and using online tools (cal-adapt).

The Sustainability Unit is dedicated to ensuring that DOJ is up to speed with all sustainability related mandates and policies. The unit is in the process of assessing DOJ's sustainability needs. The Sustainability Unit will use adaptive approaches and plans on researching and developing more policies to help the department increase sustainability efforts and track progress.

CHAPTER 2 – ZERO-EMISSION VEHICLES (ZEV)

Department of Justice Fleet

This ZEV Report and Plan demonstrates the progress the Department has made toward meeting the Governor's sustainability goals related to Zero Emission Vehicles. This report identifies successful accomplishments, ongoing efforts, outstanding challenges, and future efforts.

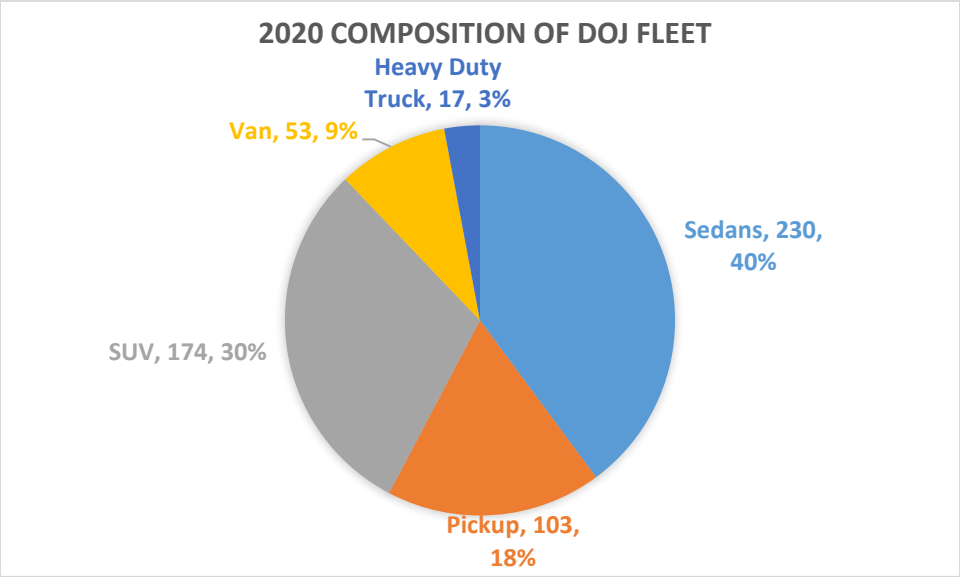
DOJ employees utilize vehicles in a variety of applications for law enforcement, emergency response, and certain administrative functions. Common vehicle usage includes, but not limited to, traveling to sites such as court houses, towing equipment used as evidence in hearings, and participating in criminal investigations that involve collecting and transporting evidence throughout the state of California.

DOJ enforcement officers and emergency response teams use unmarked 4-wheel drive pickups and sport utility vehicles (SUVs) to access all areas of the state, participate in patrols, respond to emergency situations, and ensure regulatory compliance with federal and state laws. Additionally, DOJ enforcement officers may use unmarked sedans and vans when conducting criminal investigations in an urban environment.

Attorneys, Criminal Analysts, and Administrative staff working from regional headquarters, remote offices, and labs use a variety of vehicles to travel to meetings and perform routine day-to-day functions such as meetings, site visits, facility assessments, and trips to local courthouses. These vehicles are pooled and used when needed.

The majority of DOJ's fleet consists of sworn, law enforcement vehicles driven by law enforcement and emergency response teams. The following graph shows the percentage of vehicle types within the department.

Graph 2.1: Composition of Department's Fleet



DOJ purchased a total of 307,740 gallons of gasoline in 2018. In 2020 the department purchased 234,055 gallons. DOJ decreased their overall fuel consumption by 24% since 2018. This is likely due to the pandemic because when comparing 2018 vs 2019, vehicle fuel emissions only dropped by 1% whereas 2019 vs 2020, vehicle fuel emissions dropped by 23%.

Table 2.1: Total Purchased Fuel 2020

Purchased Utility	Quantity	Cost ($)
Gasoline	230,891.45 Gallons	$ 719,462.46
Diesel	3,163.10 Gallons	$ 10,331.07
TOTAL Gasoline Gallon Equivalent (GGE)	**234,054.55 Gallons**	**$ 729,793.53**

Incorporating ZEVs into the State Fleet

A widespread shift to Zero Emission Vehicles is essential for California to meet its GHG emission goals. State departments are now required to incorporate larger numbers of ZEVs in their vehicle fleets. Starting in FY 17/18, the percentage of new light duty vehicles that must be Zero Emission Vehicles increases by 5 percent each year, reaching 25 percent in FY 19/20 and 50 percent in FY 24/25.

DOJ's fleet is typically used to perform duties in which a vehicle can operate off-road, respond to emergencies, and carry heavy/large amounts of equipment. For these types of vehicles, they require all or some combination of a 4-wheel drive system, enough torque for hauling, pick-up style for loading, high clearance, large passenger/cargo space and have the capacity for long

distance trips. Work using these types of vehicles includes patrolling remote areas, carrying emergency response equipment, evidence, hauling crime scene investigation supplies, and various law enforcement equipment. Currently there are no Battery Electric Vehicles (BEV) or Plug-in Hybrid Electric Vehicles (PHEV) available on state contract for purchase that would meet these needs.

ZEVs exemptions include cargo/passenger capacity, orange limitations where a vehicle is not used more than 72 times in a 12-month period, or 36 times in a 3-month period, for trips lasting less than 24 hours that exceed the mileage range of the Pure ZEV on contract in that vehicle category, and charging/fueling availability. DOJ currently does not have any pure ZEV fleet vehicle because every single DOJ vehicle requires or meets one of those criteria mentioned above. However, DOJ is aiming to transition to ZEVs by considering PHEVs and then HEVs for purchasing, respectively per SAM 4121.1.

Vehicles that are over specified mileage and age thresholds are eligible for replacement. There are currently 30 vehicles in DOJ's fleet eligible for replacement in vehicle classes for which ZEVs are available on contract. But as mentioned earlier, ZEVs available on contract do not meet the needs of DOJ's fleet operations and so PHEVs or HEVs will be considered where appropriate.

Table 2.2: Vehicles in Department Fleet Currently Eligible for Replacement

	Mini Van	Freight Truck	Mid-size Sedan	Pick Up Truck	Passenger SUV	Total
# of vehicles eligible for replacement	2	1	6	5	16	30

Table 2.2 lists the vehicles in the fleet eligible for replacement based on mileage and age. The figures cited above are subject to change given:

- Availability of funding to replace eligible vehicles.
- Replacements of out-of-service vehicles not meeting mileage but approved by Office of Fleet and Asset Management (OFAM) inspections.

Table 2.3 lists the estimated number of ZEVs that have been or are anticipated to be added to the DOJ fleet in the coming years. PHEVs count as transitions to ZEVs, because they have the option of being fully operated on electricity. However, they are not considered as pure ZEVs.

Table 2.3: ZEV Additions to the Department Fleet

Table Header Format	17/18	18/19	19/20	20/21	21/22
Battery Electric Vehicle	0	0	0	0	1
Plug-in Hybrid Vehicle	0	2	0	0	0

Table Header Format	17/18	18/19	19/20	20/21	21/22
Fuel Cell Vehicle	0	0	0	0	0
Percent of total purchases	0%	N/A	N/A	0%	N/A
Required ZEV Percentage	15%	20%	25%	30%	35%
Total number of ZEVs in Fleet	0	0	0	0	1

Note* Table 2.3 are purchased/planned purchases of ZEVs/PHEVs/FCVs. The required ZEV percentages applies to percent of vehicle purchases in their respective categories for that particular fiscal year. As mentioned earlier, ZEVs generally do not fulfill the fleet operational needs of DOJ Programs, so very little to none are acquired per year. DOJ intends to increase ZEVs in the fleet where applicable when that particular on-approved state contract ZEV(s) meets the need of DOJ's fleet operations.

Telematics Plan

Telematics is a method for monitoring vehicle use. Using GPS and on-board diagnostics, telematics provides valuable information often resulting in fuel savings and improved vehicle utilization. Telematics is especially important for verifying that ZEVs are maximizing the use of electric fuel rather than gasoline.

DOJ anticipates a future statewide contract administered through the Department of General Services (DGS) for telematics transponders and applicable software. The ability for the data transmitted by the telematics units to be accessible via cellular, Wi-Fi, and satellite will be critical in remote areas of operations. When staffing and resources are available, DOJ intends to implement telematics.

Public Safety Exemption

DOJ law enforcement and emergency response fleet is comprised of 4-wheel drive pickups, SUVs, and sedans used for special cases such as undercover operations or emergency use. There are a small number of hybrids in this fleet operated by officers. However, these hybrids do not offer off-road capability, towing ability, or enough passenger/cargo space, so these hybrids have minimal use. DOJ does not use this public safety exemption as a blanket exemption for all of DOJ fleet. DOJ must justify each vehicle purchased under SAM 4121.1.

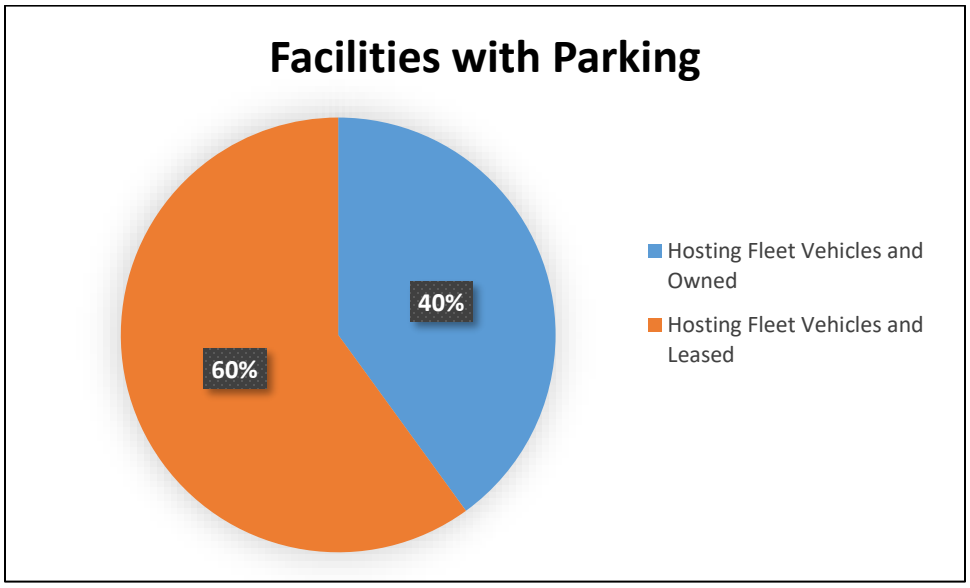
Enforcement vehicles are authorized emergency vehicles pursuant to California vehicle Code 165. They are equipped with code 3 light bars, radios, computers, spotlights, a tow package, and various other electronic equipment that does not come standard on a normally outfitted vehicle. These vehicles are used often and, in some cases, in off-road environments. They must have the ability to safely and quickly reach a reported crime in progress, investigation scenario, and assist during public safety requests.

Implementing telematics may play a key role in determining or confirming the road-use frequency and behavior of these public safety vehicles, in which DOJ intends to implement when staffing and resources are available.

Department of Justice Parking Facilities

DOJ's facilities mainly consist of offices and forensic labs. 24 percent are state-owned facilities, including most of DOJ's labs. Where facilities are hosting fleet vehicles, leased facilities represent 60 percent, whereas owned facilities represent 40 percent. DOJ currently owns eight labs. The offices and labs are generally mixed use and house attorneys, criminalists, enforcement officers, and other various administrative staff. Larger main offices have dedicated, secured lots for DOJ fleets and open mixed parking for employees and visitors. Parking at smaller facilities is generally mixed across all parking types. There are few visitors as labs are not open to the public. Generally, most visitors are staff and law enforcement from other public agencies. All lab facilities host fleet vehicles. DOJ owned lab parking lots are under review for potential solar canopy options, specifically Redding and Riverside lab. Although this section focuses on charging stations at DOJ facilities, DOJ acknowledges that other forms of traveling to work that are greener do exist (e.g. cycling, walking, public transit etc.) and DOJ intends to create educational material to inform DOJ employees of the benefits. Where staffing and resources are available, DOJ also intends to create programs where employees receive incentives for opting to travel greener (e.g. parking charging rates that favor EVs).

Graph 2.2: Parking Facilities



There are three different levels of electric chargers to consider. Level 1 (L1), Level 2 (L2) and Level 3 (L3) - also known as direct current (DC) fast chargers with L3 being the fastest. DOJ will consider installing a mix of L1 and L2 chargers for future DOJ locations that decide to purchase ZEVs. All four chargers at the Riverside lab are L1 chargers installed by DGS.

Facilities with their charging needs are listed below.

Table 2.4: EV Charging Ports Needed

Facility Name	Total Employee and Fleet Parking Spaces	Employee EV Charging Ports Needed (5% of Total Employee Spaces)	Existing Employee EV Charging Ports	Fleet EV at Site (Estimated Through 2025)	Existing Fleet EV Charging Ports	Additional EV Charging Ports Needed
BFS – EUREKA FORENSIC LABORATORY	22	1	0	1	0	2
BFS – REDDING FORENSIC LABORATORY	32	2	0	2	2*	2
BFS – SANTA ROSA FORENSIC LABORATORY	24	1	0	1	2*	1
BFS – RIPON (CENTRAL VALLEY) FORENSIC LABORATORY	55	3	0	3	0	3
BFS – RIVERSIDE FORENSIC LABORATORY	65	3	1	3	4	0
BFS – FREEDOM FORENSIC LABORATORY	23	1	0	1	0	2
BFS – FRESNO FORENSIC LABORATORY	30	2	0	2	2*	3
BFS – SANTA BARBARA FORENSIC LABORATORY	15	1	0	1	2*	1

*****Indicates that location has an EV Arc (Mobile, solar powered charging station). It is one unit but has two charging ports.

Outside Funding Sources for EV Infrastructure

DOJ is in the process of receiving five EV Arcs from DGS. EV Arcs are mobile charging stations powered by solar and are completely off-grid. Each charging Arc currently can charge up to two vehicles at a time and provide some minimal shading for the parking lot. The EV Arcs also act as an energy source in case extreme natural disasters or emergency events occur. The Arcs are a good start for EV infrastructure, but DOJ plans on searching for electric vehicle supply equipment (EVSE) funding and hopes to install more EV infrastructure for the fleet's future ZEVs.

Hydrogen Fueling Infrastructure

Hydrogen Fuel Cell Electric Vehicles (FCEV) are a type of ZEV running on compressed hydrogen fed into a fuel cell "stack." The fuel cell stack produces electricity to power an electric motor that drives the vehicle. DOJ does not currently have plans for hydrogen fueling infrastructure, but will consider it if FCEV are added to DOJ's fleet in the future.

Comprehensive Facility Site and Infrastructure Assessments

Site Assessments are performed to establish the cost and feasibility of installing needed EV infrastructure. DOJ is not currently involved in any active projects with DGS to have EVSE assessments take place. This is something the department looks forward to implementing in the future, which will be dependent upon the locations' future fleet needs

EVSE Construction Plan

The department currently has no EVSE Construction Plan, however we are currently studying the feasibility and identifying funding for such a plan.

EVSE Operation

DOJ does have some EV chargers already. The department leaves the operation to each DOJ program occupying the facility where the chargers are located. Each program sets their policy and/or time-limit. Currently there are no cost recovery policies in place. Further research in best practices will need to take place as staffing resources become available. This is a low priority project, but will rise as demand for EV charging use grows.

CHAPTER 3 - ENERGY

Department of Justice Built Infrastructure

DOJ manages many different types of facilities throughout California. Laboratories use the majority of the department's purchased energy. The laboratories are under the Bureau of Forensic Services (BFS), a comprehensive state-of-the-art, American Society of Crime Lab Directors-accredited forensic program servicing 47 of the state's 58 counties for state and local law enforcement, district attorneys, and the courts. Operating eight DOJ owned regional crime laboratories throughout the state, BFS laboratories perform forensic examinations across a broad range of physical evidence, i.e. DNA, Biology, Firearms, Trace, Latent Prints, Toxicology, Alcohol, Controlled Substances and Field Investigations. All labs are operational 24-7/ 365 days to maintain the integrity of the evidence through proper cataloguing, handling, analysis, and storage of evidence. The labs are required to stay open and operational during emergency or crisis for intake and analysis. With a combined square footage of 174,108 square feet, together these labs use about 32 million kBtus on an annual basis. The labs require consistent temperature control, which significantly contributes to energy use. Table 3.1 is a breakdown of 2003 and 2020 total purchased energy for DOJ owned facilities. DOJ did not meet the 20% reduction goal due to the addition of three crime labs after 2003.

Table 3.4: Total Purchased Energy 2020

Purchased Energy	2003 Baseline Quantity	Units	2020 Quantity	Units	% Qty. Change
Electricity	5,587,785	kWh	6,022,794	kWh	+8%
Natural gas	168,438	therms	115,590	therms	-31%
TOTALS	**35,909,322**	**site kBtu**	**32,108,769**	**site kBtu**	**-11%**

Table 3.2 shows the department's individual laboratory annual energy use and energy use intensity (EUI). DOJ's laboratories have high energy use because they are 24-hour facilities. They must use power to run various tests used in criminal cases. As funding allows, lighting improvements and other energy saving upgrades will be made to increase energy efficiency. Although there is no set date or timeframe due to understaffing, DOJ intends to seek heating/cooling efficiencies when resources are available.

Table 3.5: DOJ Laboratories Annual 2020 Energy Consumption and Energy Use Intensity (EUI)

Building Name	Floor Area (ft^2)	Site Energy (kBTU)	Source Energy (kBTU)	Source EUI (kBTU/ft^2-yr)
BFS – Fresno Forensic Laboratory	36,007	8,994,829	23,204,106	644
BFS – Riverside Forensic Laboratory	39,000	6,724,013	16,020,422	411
BFS – Ripon (Central Valley) Forensic Laboratory	32,000	5,384,056	13,087,204	409
BFS – Santa Barbara Forensic Laboratory	13,800	3,433,960	7,298,289	529
BFS – Redding Forensic Laboratory	16,799	3,130,152	8,761,835	522
BFS – Santa Rosa Forensic Laboratory	15,645	2,707,806	5,206,381	333
BFS – Freedom Forensic Laboratory	11,086	1,004,018	2,260,584	204
BFS – Eureka Forensic Laboratory	9,771	729,934	1,492,266	153
Total for Buildings in This Table	174,108 ft^2	32,108,769 kBTU	77,331,088 kBTU	444

The department is in the process of assessing the lighting fixtures for the Santa Barbara and Riverside lab. If the assessment shows significant savings in energy and cost, the department will move forward with the project and expand it to the rest of the facilities

DOJ does not have in-house architecture and engineering (A&E) services required for major construction and tends to rely on DGS for these types of projects. The department also works with DGS to ensure new building projects meet all environmental standards and mandates.

Zero Net Energy (ZNE)

ZNE is a term used to describe an energy efficient building or facility that consumes as much (or less) than it produces from renewable sources in a one-year span. State policies set forth the following milestones for state zero net energy buildings:

- 2017 – 100% of new construction, major renovations and build-to-suit leases beginning design after 10/23/2017 to be ZNE
- 2025 – 50% of total existing building area will be ZNE

The governor has set forth the following milestones for state zero net energy buildings:

- 2020 – 50% of new construction and major renovations will be ZNE
- 2025 – 100% of new construction and major renovations will be ZNE
- 2025 – 50% of total existing building area will be ZNE

DOJ does not have any ZNE facilities, however the department is looking into the requirements of ZNE and working towards having all their buildings be ZNE ready. This means that the labs' source EUI will meet the energy efficiency threshold. After meeting the threshold, those laboratories' next step is to generate their energy use from renewable sources. When the generation is measured and equal to the amount that particular facility uses within one year, it is considered a ZNE facility. Renewable sources and ZNE definitions are detailed in DGS's ZNE guidelines. In order to meet ZNE goals, the department is currently working to install solar panels at select lab locations where feasible.

New Construction Exceeds Title 24 by 15%

All new state buildings and major renovations beginning design after July 1, 2012, must exceed the current California Code of Regulations (CCR) Title 24, energy requirements by 15% or more.

DOJ has had no new construction or major renovations recently. When DOJ requires new construction or renovations, the department will work closely with and rely on DGS to implement new construction requirements.

Reduce Grid-Based Energy Purchased by 20% by 2018

Executive Order B-18-12 requires state agencies to reduce grid-based energy purchased by 20% by 2018, compared with a 2003 baseline.

DOJ has not yet met the 20% reduction goal. This is due to some BFS labs being built after the 2003 baseline year. This makes it difficult to see DOJ's efforts when it comes to energy reduction. A better measurement would be using EUI to showcase DOJ's efforts. EUI is based on energy use over square footage. The good thing about using this measurement is when DOJ loses or gains square footage, it is proportionate to its energy use.

To reduce energy use, DOJ intends to:

- have all labs undergo energy lighting audits starting with Santa Barbara and Riverside labs first,
- searching for grants and other financing opportunities to upgrade facilities with more energy efficient equipment (e.g. HVAC)
- develop an expanded teleworking policy for employees (that includes office sharing and hoteling).

DOJ Energy Trends

Total energy use is a good measurement but sometimes can be misleading if buildings with large square footage were added to the portfolio. Table 3.3 looks at overall energy use trends over a series of years using EUI. EUI is energy use per square footage and can be a more accurate measurement of energy efficiency. Please note the baseline year is 2003 and three more buildings were built after that year. Moreover, source energy use also includes the amount of energy it takes to produce and deliver the energy to the site.

Table 3.3: Department-Wide Energy Trends

Year	Floor Area (ft^2)	Total Source kBTU Consumption	Department Average Source EUI
Baseline Year (2003)	128,255	78,416,138	611
2013	174,108	79,653,792	457
2014	174,108	74,190,705	426
2015	174,108	77,394,528	445
2016	174,108	84,229,903	484
2017	174,108	78,878,373	453
2018	174,108	89,011,300	511
2019	174,108	88,605,825	509
2020	174,108	77,331,088	444
% Change 2003-2020	36%	-1%	-27%

A look at the department energy trends shows source energy use decreased by 1% from 2003-2020. As mentioned earlier, this small decrease is due to the addition of 3 additional crime lab facilities after 2003 as well as the pandemic being another contributor (Table 3.3, row 2019 vs 2020 total kBtu Source consumption).

DOJ recently completed a lighting energy audit at the Santa Barbara lab and Riverside lab. The department intends to replace fluorescent light fixtures with LED fixtures for all labs.

Table 3.4: Energy Surveys

Year	Total Department Floor Area Surveyed (ft^2)	Percent of Total Department Floor Area (ft^2)
2020	52,806	30%

Demand Response

Executive Order B-18-12 directed all state Departments to participate in available demand response programs and to obtain financial incentives for reducing peak electrical loads when called upon, to the maximum extent cost-effective.

DOJ is not participating in demand response programs at its locations because DOJ laboratories must operate 24 hours. DOJ's 24-hour lab operation was found to not have any major peaks to take advantage of.

Renewable Energy

New or major renovated state buildings over 10,000 square feet must use clean, on-site power generation, and clean back-up power supplies, if economically feasible. Facilities with available open land must consider large-scale distributed generation through various financing methods, including, but not limited to, third party power purchase agreements (PPAs).

Although there are no specific kW goals for renewable energy, renewable energy does count towards meeting: (1) Zero Net Energy goals for 2025 and; (2) 20% grid-based energy use reduction by 2018.

Renewable energy generation is important to meeting DOJ's GHG emission goals. The department is currently determining the feasibility of installing solar panels for select BFS sites. DOJ is working with DGS to assess all DOJ-owned BFS labs for solar installation. The department is targeting the eight owned BFS lab sites as potential candidates and will assess the sites for projects in the near future.

Monitoring Based Commissioning (MBCx)

New and existing state buildings must incorporate Monitoring Based Commissioning (MBCx) to support cost effective and energy efficient building operations, using an Energy Management Control System (EMCS). State agencies managing state-owned buildings must pursue MBCx for all facilities over 5,000 square feet with EUIs exceeding thresholds described in Management Memo 15-04. DOJ does not currently have an installed EMCS or current MBCx activities. However, DOJ intends to look into this in the future after completion of other energy projects.

Financing

State agencies are required to pursue all available financing and project delivery mechanisms to achieve these goals including, but not limited to: state revolving loan funds, utility On-Bill Financing (OBF), Power Purchase Agreements

(PPAs), GS $Mart, Energy Service Contractors (ESCOs), or other available programs.

DOJ intends to pursue any financing available to state departments to improve the departments energy efficiency. The department is working with PG&E and outside vendors to evaluate the laboratory sites for energy savings and retrofits. If participation in PG&E's OBF program is determined to be beneficial, DOJ intends to place all labs on where applicable.

In regard to renewable energy, the department is currently working with DGS and outside partners towards a PPA .

CHAPTER 4 - WATER EFFICIENCY AND CONSERVATION

This Water Efficiency and Conservation report demonstrates to the Governor and the public the progress the Department has made toward meeting the Governor's goals. This report identifies successful accomplishments, ongoing efforts, and outstanding challenges.

California experiences the most extreme variability in yearly precipitation in the nation. In 2015, California had record low statewide mountain snowpack of only 5 percent of average while 2012-14 were the 4 driest consecutive years of statewide precipitation in the historical record. The 2017 water year (October 1, 2016-September 30, 2017) surpassed the wettest year of record (1982-83) in the Sacramento River and San Joaquin River watersheds and close to becoming the wettest year in the Tulare Basin (set in 1968-69). These potential wide swings in precipitation from one year to the next show why California must be prepared for either flood or drought in any year.

Therefore, using water wisely is critical. The EOs and SAM sections listed in the previous section help demonstrate the connection between water and energy use, (the water-energy nexus), water and climate change, and water and landscaping. Further, the impact of water uses by state agencies goes beyond the scope of these EOs and SAM sections and DGS management memos as these documents do not address such related issues as water runoff from landscaping and various work processes and the potential for water pollution or the benefits of water infiltration, soil health and nutrient recycling. However, by using holistic water planning, a well-crafted water plan can not only meet all state requirements but also add considerable value and benefits to the organization and surrounding communities. DOJ is creating and implementing programs that meet the governor's sustainability goals for water conservation. Recently, these projects include landscape retrofit and installing reclaimed water systems to reuse cooling unit blowdown water for irrigation.

Department of Justice Water Report and Plan

DOJ labs use a significant amount of water. Water consumption in a forensic laboratory can be as much as 5 to 10 times more than a typical office. Most of the water use reported is considered indoor use; sanitary water, lab process water, water used for sterilization, reverse osmosis/deionized water production, and HVAC/mechanical equipment. Audit findings also reported that a large consumption of water in these lab locations is due to landscape irrigation water waste. Measures are being reviewed in which "blowdown" greywater captured from the building's chiller systems may be rerouted for landscape irrigation

needs. The amount of recycled water that can be used in these areas is unknown at this time.

Due to the low personnel occupancy for DOJ's lab facilities, very little water is used for toilets and showers. Therefore, water management efforts are currently being concentrated on modifying each lab's mechanical cooling system (evaporative cooling). This system causes water to be lost through evaporation, drift and blowdown. All fresh water contains naturally high mineral content concentrations, causing scale formation in the building's HVAC systems. Because of the high mineral content of the water sources at each of the labs, scale formation is not being reduced enough to decrease required blowdowns, which results in high potable water waste. In 2015, DOJ was awarded a $305,000 grant to install side-stream sand filtration systems, water softener tanks and pulse-powered HVAC water treatment systems at selected lab locations to help save water. The installation of these systems is complete and at least one pulse-powered Dolphin system has been installed in the Ripon, Redding, Riverside, and Fresno locations.

Table 4.1 is a breakdown of total water used by DOJ's owned laboratories in 2020.

Table 4.6: 2020 Total Purchased Water

Purchased Water	Quantity (Gallons)	Cost ($/yr)
Potable	6,431,550	$ 13,570
Recycled Water	n/a	n/a
Total	6,431,550	$ 13,570

Table 4.7: DOJ labs and Water Use Per Capita

Building Name	Area (ft^2)	# of Building Occupants	Total 2020 Gallons	Total 2020 Irrigation in Gallons (if known)	Gallons per Capita
BFS – RIVERSIDE FORENSIC LABORATORY	39,000	31	2,708,900	NA	239
BFS – REDDING FORENSIC LABORATORY	16,799	21	368,700	NA	48

BFS – RIPON (CENTRAL VALLEY) FORENSIC LABORATORY	32,000	38	2,280,100	NA	164
BFS – FRESNO FORENSIC LABORATORY	36,007	41	914,200	NA	61
BFS – SANTA BARBARA FORENSIC LABORATORY	13,800	13	86,500	NA	18
BFS – SANTA ROSA FORENSIC LABORATORY	15,645	13	58,400	NA	12
BFS – EUREKA FORENSIC LABORATORY	9,771	10	3,350	NA	1
BFS – FREEDOM FORENSIC LABORATORY	11,086	11	11,400	NA	3
Total for Buildings in This Table	174,108 ft^2	178	6,431,550	NA	68 (average)

*Lab operations use large amounts of water which causes high gallons per capita.

Table 4.2 lists DOJ labs and their water use per capita in 2020. Because labs use large amounts of water for operational needs, the 68 gallons per capita rate (gallons of water used per person per day) is very high compared to a normal office building type, which averages 13 gallons per capita. The water usage for leased buildings is not known at this time as this data is in the process of being recorded in Energy Star Portfolio.

There is a slight increase in water usage for the Ripon, Fresno, and Santa Rosa labs since 2019. Although the Dolphin systems were installed, the labs are planning on reusing the cooling tower blowdown water for landscape irrigation. DOJ is currently working with DGS on installing a reclaimed water system at each site with a Dolphin system. Water conservation plans estimate by installing two filtration systems and water softeners, these labs can run up to 7 cycles and save over 100,000 gallons of water per month. The installation of water conservation infrastructure is currently in process.

Table 4.3: Department Wide Water Use Trends

Year	Total Occupancy /year	Total Amount Used (Gallons/year)	Percent Change from 2010 Baseline	Per capita Gallons per person per day
Baseline Year 2010	178	13,613,224		209
2013	178	11,751,300	-14%	181
2014	178	9,145,300	-33%	141
2015	178	6,089,700	-55%	95
2016	178	8,846,700	-35%	136
2017	178	6,707,800	-51%	103
2018	178	7,371,700	-45%	115
2019	178	6,541,600	-52%	101
2020	178	6,431,550	-53%	99

The department decreased water usage from year 2010 to 2015 with a slight increase in 2016. Overall, the department has seen a 27% reduction in water usage between the years 2013 and 2016 and a 53% reduction from 2010 baseline to 2020.

Table 4.4: Total Water Reductions Achieved

Total 2020 Water Use Compared to 2010 Baseline	Total 2020 Amount Used (gallons per year)	Annual Gallons Per capita 2020
20% REDUCTION ACHIEVED	6,431,550	99

Most projects completed by DOJ facilities are maintenance inspections, repairs, or replacements requested by the location staff. These projects are completed

on an as-needed basis. The department replaces water fixtures such as urinals and toilets with more efficient models when resources become available.

Table 4.5: Summary of Indoor Water Efficiency Projects Completed or In Progress

Year Started	Water Saved (Gallons/yr)	Cost Savings per Year
2015	Work Began	N/A
Annually	3,622,200	N/A

Water Shortage Contingency Plans and Critical Groundwater Basins

Urban water suppliers are required to maintain Water Shortage Contingency Plans that are customized to local conditions. These plans include a staged response to water shortages and droughts lasting up to three years. When implementing the stages of the Water Shortage Contingency Plan, the water supplier requires increasingly stringent reductions in water use.

The Sustainable Groundwater Management Act (SGMA) established a new structure for managing California's groundwater resources at a local level by local agencies. SGMA required, by June 30, 2017, the formation of locally controlled groundwater sustainability agencies (GSAs) in the State's high- and medium-priority groundwater basins and subbasins. A GSA is responsible for developing and implementing a groundwater sustainability plan (GSP) to meet the sustainability goal of the basin to ensure that it is operated within its sustainable yield, without causing undesirable results. For those facilities located in critical groundwater basins, state agencies are to work with the local GSA plan.

DOJ will ensure its locations meet the water shortage contingency plans of its suppliers. Three out of the eight laboratories are located in areas of critical groundwater basins.

Table 4.6: Number of Buildings with Urban Water Shortage Contingency Plans and in Critical Groundwater Basins

Number of Buildings with urban water shortage contingency plans.	Number of buildings in critical groundwater basins	Total Amount of water used by buildings in critical groundwater basins (Gallons) 2020
1	3	3,205,700

DOJ will reach out to the facilities in these critical basins (Ripon, Fresno, and

Freedom labs) and assist in identifying the water supplier's plans to ensure either the facility is aware of the plan, or if no plan exists, then will work with location managers to ensure they have a plan. DOJ is also looking at the water systems at these locations and will work with the onsite engineers from DGS to further conserve as much as possible.

Building Inventories Summary

With many projects still in process, DOJ has replaced at least two chillers and installed fours Dolphin system so far. This was made possible by the 2015 Water Conservation Grant awarded by DGS. DOJ approached this project by first identifying which laboratory used the most water and then investigating major consumptions. DOJ discovered that chiller system blowdown is the likely cause of water waste and developed a water management plan to install Dolphin Pulse Power Systems at the selected labs. The final project cost was $320,818. The project timeframe spanned about two years (starting May 2015) for all system installations.

By the end of 2017, DOJ installed four Dolphin systems. DOJ plans on re-assessing the locations with the Dolphin systems installed.

In an effort to conserve water, DOJ is currently working with DGS to install reclaimed water systems for the labs with Dolphin systems. The reclaimed water systems will reclaim cooling blowdown water for landscape irrigation.

Heating and Cooling Systems Inventories Summary

DOJ-owned lab locations have natural gas boilers for water heating ranging from 450 to 2000 gallons of water. Roof top air handling units provide heating and cooling throughout the lab facilities. These systems are made up of large chillers, boilers, and water pumps circulating hot and cold water depending on indoor temperature demands.

Irrigation Hardware Inventories Summary

Landscaping typically uses 50 percent or more of an agency's total water use. While landscaping serves critical functions, the accompanying irrigation hardware, if not properly installed and maintained, can contribute to water waste. By reviewing and inventorying all irrigation hardware, it is possible to achieve significant water savings.

DOJ's owned facilities include landscaped areas exceeding 50,000 square feet in total. The majority of the land is turf grass requiring daily water use. The department plans to review the feasibility of terraforming projects that would create a more water efficient landscape for the labs. The department is also in the process of implementing reclaimed water systems for 4 of the 8 lab sites. Waste water from the labs' cooling systems will be reused for irrigating the landscape. This project will improve DOJ's water conservation efforts.

Living Landscape Inventory

Far from being only an aesthetic or ornamental feature, landscaping plays a critical role around public buildings and facilities. From providing safety and security, to reducing local heat islands, suppressing dust, reducing water runoff, maintaining soil health, aiding in water filtration and nutrient recycling, landscaping around public buildings is essential. Further, landscaping in public places frequently surrounds historic places and public memorials as well as provides pleasant public gathering spaces. The health and proper maintenance of these landscapes is vital to the physical wellbeing of California's people as well as to its social, cultural, political, and historical life.

Additionally, the many vital ecosystem functions carried out by living public landscaping are critical in helping California meet its goals for GHG reduction, climate adaptation, water and energy efficiency, and water conservation.

Urban forests are vital to improve site conditions for occupants and visitors to buildings and the surrounding community.

The majority of the landscaping at DOJ-owned locations contains turf grass and depending on the work involved, may require city permits to change the landscape features. These locations are in an urban setting with a variety of shrubs, trees, and other foliage that are irrigated using drip systems. In 2015, the labs had a water survey conducted in regard to their landscaping. The conclusion of the survey was a recommendation to remove all grass turf to include contouring the landscape for proper rain-water drainage. Some labs completed this and further replaced their existing drip irrigation system with point source irrigation. However, another assessment needs to be completed as some irrigation systems are now in need of repair. The department plans to reassess the landscape irrigation systems at DOJ-owned locations with the goal of furthering water conservation. DOJ has little authority over the landscaping options at leased facilities, however when searching for a new location the facilities management unit will ensure that a living landscape and or drought tolerant landscape is considered. DOJ is currently assessing the Redding and Riverside Lab landscapes and is hoping to retrofit the land to include more drought tolerant plants.

Large landscape Water Use

Large landscape water use often represents a significant percentage of a facility's water use and significant water savings can often be achieved through better irrigation scheduling or inexpensive improvements in irrigation hardware. As a part of the Water Use Guidelines and Criteria, the water use for landscape areas over 20,000 sq. ft. shall be tracked through a water budget program.

DOJ has not assessed individual labs on a water budget program. DOJ will be working closely with property managers and engineers to determine if a water budget program is needed, dependent upon land use operations. Leased facility landscapes are managed by the property management and DOJ has little to no authority over those locations.

Best Management Practices

Building Best Management Practices (BMPs) are ongoing actions establishing and maintaining building water use efficiency.

DOJ will put together a best practice guide to send to all locations. This guide will include general water management and maintenance procedures, ensuring a facility conserves water and uses it efficiently. It is essential that these facilities and employees of DOJ have access to a list of BMPs. While it is impractical to monitor employee adherence to every one of the BMPs, monitoring of monthly water use should still be conducted to identify locations where water use is increasing, and where potential problems may exist.

Building Heating and Cooling Systems BMPs

DOJ has few owned properties with boilers and chillers in its portfolio. For the properties that do have chillers, DOJ investigated the use of utility HVAC optimization programs, ensuring the equipment is properly maintained and operating as efficiently as possible. It was discovered that the majority of water waste came from the chillers, which are in the process of being replaced.

All DOJ-owned facilities have large landscape areas in urban settings. These properties could benefit from a BMP guide, stating that employees should notify the facility manager immediately if leaks are discovered in the drip irrigation system.

Monitoring, Reporting and Compliance

Each state agency is responsible for monitoring water use and reporting baseline and annual water use for compliance with the water use reduction targets. Water use shall be measured at facilities that have meters and sub-meters.

DOJ reports on eight DOJ-owned forensic labs. The rest of DOJ's properties are leased from private entities in which water usage is not being reported, or from the Department of General Services which reports on water usage for all of its tenants combined. For DOJ-owned locations, all water is metered and tracked through the locations' utility. Each location has two meters: one for indoor water use and one for irrigation use.

DOJ Sustainability employees enter data into Energy Star Portfolio Manager on a monthly basis (or as frequently as the billing cycle) and reports totals to DGS annually.

CHAPTER 5 - GREEN OPERATIONS

Greenhouse Gas (GHG) Emissions

State agencies are directed to take actions to reduce entity-wide GHG emissions by at least 10 percent by 2015 and 20 percent by 2020, as measured against a 2010 baseline. DOJ exceeded the 20 percent goal and reduced GHG emissions by 48 percent. This is likely due to vehicles becoming more fuel efficient, increasing use of HEVs into DOJ's fleet and the current 2020 pandemic.

Table 5.1: GHG Emissions since 2010 in Metric Tons (MT)

Emissions Source	2010 Base-line	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Percent Change since Baseline
Natural gas	1,445	1,191	1,294	1,345	1,611	1,183	1,135	719	1,168	1,059	1,433	-1%
Vehicles	5,338	4,713	3,086	2,862	3,370	3,116	3,018	2,897	2,710	2,680	2,059	-61%
Purchased Electricity	5,094	3,199	3,475	2,880	3,961	3,795	3,569	3,547	3,498	2,941	2,705	-47%
Total	11,877	9,103	7,855	7,087	8,942	8,095	7,721	7,163	7,376	6,680	6,197	-48%

Graph 5.1: GHG Emissions since 2010 (MT)

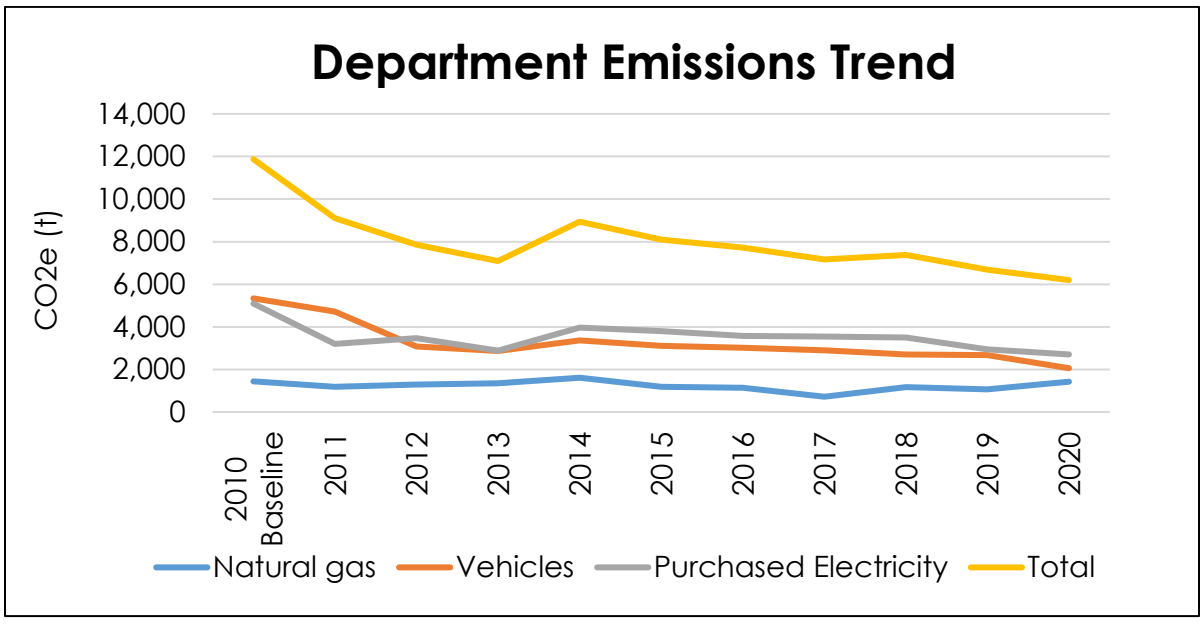


Table and Graph 5.1 shows DOJ decreased GHG emissions by 2020. DOJ implemented a sustainability unit in year 2020. The unit is currently researching

and implementing new policies to continue decreasing GHG emissions even further.

Low Emission Landscaping Equipment

State agencies are to use manual landscape and hardscape maintenance as much as possible to reduce air pollution, dust and noise. These measures are addressed in SAM Section 1821.6.

DOJ contracts out landscaping at facilities it owns, so DOJ has no control over landscaping equipment. However, moving forward and when staffing resources are available, DOJ intends to create new policies to negotiate with landscaping companies to utilize low-emission landscaping equipment.

Building Design and Construction

Executive Order B-18-12 requires all new buildings, major renovation projects, and build-to-suit leases over 10,000 square feet shall obtain Leadership in Energy and Environmental Design (LEED) Silver certification or higher. All new buildings under 10,000 square feet shall meet applicable CalGreen Tier 1 Measures. New buildings and major renovations greater than 5,000 square feet are also required to be commissioned after construction.

DOJ has no approved plans to construct new buildings at this time. There has been only one minor remodel in one of the laboratories. There has been no LEED certification for DOJ labs.

LEED for Existing Buildings Operations and Maintenance (EBOM)

All State buildings over 50,000 square feet were required to complete LEED-EBOM certification by December 31, 2015 and meet an Energy Star rating of 75 to the maximum extent cost effective.

DOJ has no LEED – EBOM buildings. All DOJ-owned labs are under 50,000 square feet. A department goal is to increase sustainability efforts and adapt buildings to LEED standards where feasible.

Indoor Environmental Quality

When accomplishing alterations, modifications, and maintenance repairs and when feasible, state agencies shall implement the mandatory and voluntary measures of the California Green Building Standards Code (CALGreen), Part 11, related to indoor environmental quality.

Indoor Environmental Quality must also be maintained through the use of low emitting furnishings, cleaning products, and cleaning procedures.

New Construction and Renovation

The department has not had any new construction or major renovations.

Furnishings

DOJ purchases office chairs through CALPIA. DOJ expects CALPIA products to be compliant with DGS purchasing standards. These standards include requirement of low emitting furnishings that are safer and more environmentally friendly.

Cleaning Products & Procedures

DOJ contracts out for cleaning and maintenance services at department-owned locations. At DGS-owned locations occupied by DOJ, DGS personnel use cleaning products based on their purchasing standards. When staffing resources are available, DOJ intends to review maintenance contracts to ensure language includes cleaning products that are environmentally preferable.

HVAC Operation

HVAC operations for our forensic laboratories have contract maintenance scheduled every four months or as needed based on environmental concerns. Some labs also have DGS engineers onsite who ensure the HVAC systems operate properly and to specifications.

Integrated Pest Management

Department staff and contracted pest management companies will follow an Integrated Pest Management (IPM) strategy focusing on long-term prevention of pest problems through monitoring for pest presence, improving sanitation, and using physical barriers and other nonchemical practices. If nonchemical practices are ineffective, Tier 3 pesticides may be used, progressing to Tier 2 and then Tier 1 if necessary. Effectiveness is evaluated

DOJ created a formal policy for integrated pest management plan for the department in 2020. DOJ intends future contracts to contain IPM practices. The evaluation of the effectiveness of the practices would be different/unique to the particular pest of concern. The IPM details procedures for DOJ staff or contractors to carry out when controlling pests. Practices are aimed to use more environmentally friendlier options. The policy is effective throughout all DOJ locations, owned and leased sites.

Table 5.2 lists all current pest control contracts held by the department and whether IPM as described in MM 15-06 is required in the contract.

Table 5.2: Pest Control Contracts

Pest Control Contractor	IPM Specified (Y/N)
Clark Pest Control	N

Pest Control Contractor	IPM Specified (Y/N)
Valley Wide Pest Control	N
Hitmen Pest Control	N
4 Less Termite	N
Alliance Land Care	N
Terminex International	N
Zac Gonzalez Landscaping	N

Waste and Recycling Programs

California's Department of Resources Recycling and Recovery (CalRecycle) brings together the state's recycling and waste management programs. State agencies must report their waste and recycling efforts by May 1 of each year covering activities conducted during the prior calendar year.

Recycling

Recycling is the practice of collecting and diverting materials from the waste stream for remanufacturing into new products, such as recycled-content paper. Other recycling efforts include such things as beverage containers, glass, plastics (#3-7), carpet etc.

DOJ has an internal recycling program mainly consisting of reporting and recycling contracts. With the creation of the new sustainability unit on July 1, 2020 the department hopes to increase training, awareness, and recycling programs. The Sustainability Unit intends to develop and implementing programs that meet the governor's sustainability goals for green operations. Currently, offices have recycling stations for white paper, mixed paper, aluminum, glass, and plastic. There are bottle recycling containers throughout break rooms and a battery recycling station. The largest type of waste for the department is contaminated paper goods (tissues, napkins, etc.). The obstacle in decreasing this amount is finding enough resources to provide organic bins throughout, along with educating staff. Another obstacle is finding vendors to provide services in remote areas.

Organics Recycling

State agencies must abide by AB 1826, which requires state agencies to arrange for recycling services for the following types of organic material:

- Food waste
- Green waste
- Landscape and pruning waste
- Nonhazardous wood waste
- Food-soiled paper

This new law requires each state agency to recycle organic material on or by the following dates based on the amount of materials generated:

- 8 or more cubic yards of organic material per week--April 1, 2016
- 4 or more cubic yards of organic material per week--January 1, 2017
- 4 or more cubic yards of solid waste per week--January 1, 2019
- 2 or more cubic yards of solid waste per week, if statewide disposal of organic waste is not decreased by half--January 1, 2020

The department is actively working on adding an organics-recycling program by updating the Department of Justice Administrative Manual (DOJAM) and creating an Organic Waste Program for each office. The facilities meeting the waste threshold will have an Organic Waste Program implemented. Although the staff count at DOJ Labs is relatively low and organic waste is minimal, the Department would still like to provide options for the facilities not meeting the threshold. Currently, the landscaping contractors take care of the landscaping and pruning waste; however, DOJ is taking a closer look into their facilities and different organizations in the area and implementing organic waste guidelines.

Hazardous Waste Materials

DOJ's forensic laboratories dispose of hazardous materials through different contracted environmental companies such as North Coast Environmental and Mediwaste. DOJ also contracts with Battery Solutions, Inc. to service all DOJ facilities with battery waste, which helps keep hazardous material out of landfills. When there's available staffing resources, DOJ intends to further assess and ensure that the hazardous materials DOJ generates does not end up in landfills and review/update internal procedures for universal waste.

Material Exchange

DOJ participates in the material exchange with the following different types of organizations:

- Nonprofit/school donations
- Internal property reutilizations
- State surplus (accepted by DGS)
- Used book exchange/buy backs
- Employee supplies exchange

Waste Prevention/Reuse

Programs in this section support (a) waste prevention: actions or choices reducing waste and prevent the generation of waste in the first place; and (b) reuse: using an object or material again, either for its original purpose or for a

similar purpose, without significantly altering the physical form of the object or material.

DOJ encourages waste prevention/reuse through the following methods:

- Paper forms reduction – online forms
- Remanufactured toner cartridges
- Electronic document storage
- Utilizing the intranet and bulletin boards
- Reuse of office furniture, equipment, and supplies
- Reuse of packing materials
- Utilizing email instead of paper memos
- Food Donation
- Remanufactured equipment

Training and Education

DOJ will encourage recycling through the following training and education methods:

- Dedicated recycling staff (Onsite Recycling Coordinators)
- Signage (signs, posters, labels for recycling bins)
- Employee training
- Adequate number and condition of recycling receptacles
- Educational Web pages (intranet or internet), brochures, flyers, newsletters, publications
- Newspaper articles/ads
- Office recycling guides and fact sheets
- Outreach (internal/externals) e.g. environmental fairs
- Waste audits, waste evaluations/surveys

Table 5.3: State Agency Reporting Center (SARC) Report on Total Waste per Capita

Per Capita Target for DOJ	2019 per capita	2020 per capita	Total Waste 2019 (tons)	Total Waste 2020 (tons)	% Change from 2019/2020 of Total Waste
0.60	0.30	0.18	267.06	166.73	-38%

Table 5.3 shows the department's total waste per capita. DOJ's per capita disposal rate (pounds/person/day) employee target is 0.60. DOJ exceeded their target each year. DOJ has also decreased its waste total by 38 percent in the past recent year while employee count has increased by 116. This waste reduction is likely due to majority of staff teleworking for the 2020 year.

Environmentally Preferable Purchasing (EPP)

State agencies are required to purchase and use EPP products that have a reduced effect on human health and the environment when compared with competing goods serving the same purpose.

Reducing Impacts

The environmental impact of the goods we buy is often larger than the impact of our own department operations. Our department is committed to reducing the environmental impact of the goods and services that we purchase.

Measure and Report Progress

Table 5.4: State Agency Buy Recycled Campaign Fiscal Year 2019 - 2020 Performance

Product Category	SABRC Reportable Dollars	SABRC Compliant Dollars	% SABRC Compliant
Antifreeze	0.00	0.00	0 %
Compost and Mulch	0.00	0.00	0 %
Glass Products	34,475.27	0.00	0 %
Lubricating Oils	0.00	0.00	0 %
Paint	0.00	0.00	0 %
Paper Products	278,060.52	178,850.53	64.32 %
Plastic Products	1,254,324.81	1,081,085.20	86.19 %
Printing and Writing Paper	1,128,939.55	683,099.27	60.51 %
Metal Products	840,371.09	656,804.71	78.16 %
Tire Derived Products	40,905.49	0.00	0 %
Tires	0.00	0.00	0 %

The department would like to increase State Agency Buy Recycled Campaign (SABRC) compliancy in all areas of purchasing where feasible. Table 5.4 shows the department needs to focus some attention on finding SABRC compliant tires, tire derived products, and glass products. The reason why the tire categories have no compliant dollars spent is because DOJ requires new tires to be available for emergency use. However, there is a potential opportunity for non-emergency use vehicles. In addition, tires are purchased for the many pursuit and active investigation vehicles, which cannot contain recycled or

retreated tires due to the risk of public safety. The reason why glass products are not in SABRC compliance is due to forensic laboratory glass needs. Antifreeze, lubricating oils, paint, compost and mulch are all maintenance-type products usually paid under maintenance contracts or the voyager system and are difficult to track. They are currently excluded for now until DOJ develops a new method to track dollars spent in those categories.

Table 5.5: Commodities categories with the greatest Potential to Green

Commodity	2020 Total Spend ($)	2020 Percent EPP Spend (%)	EPP Target (%)
Antifreeze	0	0	50
Compost and Mulch	0	0	50
Glass Products	34,475.27	0	50
Lubricating Oils	0	0	50
Paint	0	0	50
Tire Derived Products	40,905.49	0	50
Tires	0	0	50

Sustainability Development and Education

DGS provides online EPP training courses that are easily accessible to the public. DOJ will disseminate information on this training to all procurement staff by updating the DOJ Administrative Manual. All DOJ buyers will be required to attend the California's Procurement and Contracting Academy's (CALPCA) online EPP training course in order to become more knowledgeable in regard to EPP products. DOJ has one procurement staff member dedicated to EPP who serves as the lead for the SABRC report and one staff member who serves as a SABRC back up. DOJ will take a closer look on how to improve tracking through use of spreadsheets and software. Listed below are DOJ's Contract and Purchasing Unit's (CPU) EPP training numbers and purchasing procedures.

Total Number of Employees Assigned as Buyers: **10**

Total Number of Employees Who Have Completed EPP training: **10**

Total Number of Buyers Who Have Taken Additional Trainings: **0**

Percentage of Employees Who Have Completed EPP training: **100%**

Below are the steps DOJ takes to ensure non-IT goods are EPP:

- Checking the Post-Consumer Recycled-Content PCRC form (standard practice for point of sale is to require vendors to submit the PCRC form with every purchase);
- Reading the recycled content label;

- Taking EPP training classes;
- Checking reseller websites, where content percentages are posted and verifying against the received PCRC;
- Verifying SABRC information on Cal Card purchases; and
- Discussing EPP in Cal Card trainings.

Below are the steps DOJ takes to ensure IT goods are EPP:

- Ensuring specifications of statewide contracts are met;
- If a non-standard item is requested, checking that the item is energy star rated;
- For non-mandatory statewide contract hardware, requiring the vendor to disclose recycled content on Cal Recycle 74 form; and
- For goods not on a statewide contract, checking the DGS website for comparable products that meet EPP standards, if available.

Location Efficiency

Location efficiency refers to the effect of a facility's location on travel behavior and the environmental, health and community impacts of that travel behavior including emissions from vehicles. Locating department facilities in location efficient areas reduces air emissions from state employees and users of the facilities, contributes to the revitalization of California's downtowns and town centers, helps the department compete for a future workforce that prefers walkable, bikeable, and transit-accessible worksites and aligns department operations with California's planning priorities.

Our department's goal is that the average location efficiency score for all new leases be 10 percent higher than our average on Jan 1, 2017. DOJ has met this goal.

Table 5.6 shows the department increased its efficiency score by 25 percent from the 2016-year baseline. DOJ's Sustainability Unit is working with the Facilities Unit to create policies for future leases that will ensure an increase in location efficiency score whenever possible. For DGS-owned locations occupied by DOJ, DOJ will rely on DGS to ensure location efficiency score guidelines are followed.

Note for Table 5.6: Lists all new executed leases that began site search after January 1 2017.

Table 5.6: Smart Location Score for New and Renewed/Re-executed Leases

Facility name	Smart Location Calculator Score
BMFEA - Fresno	69
BMFEA – San Diego	72

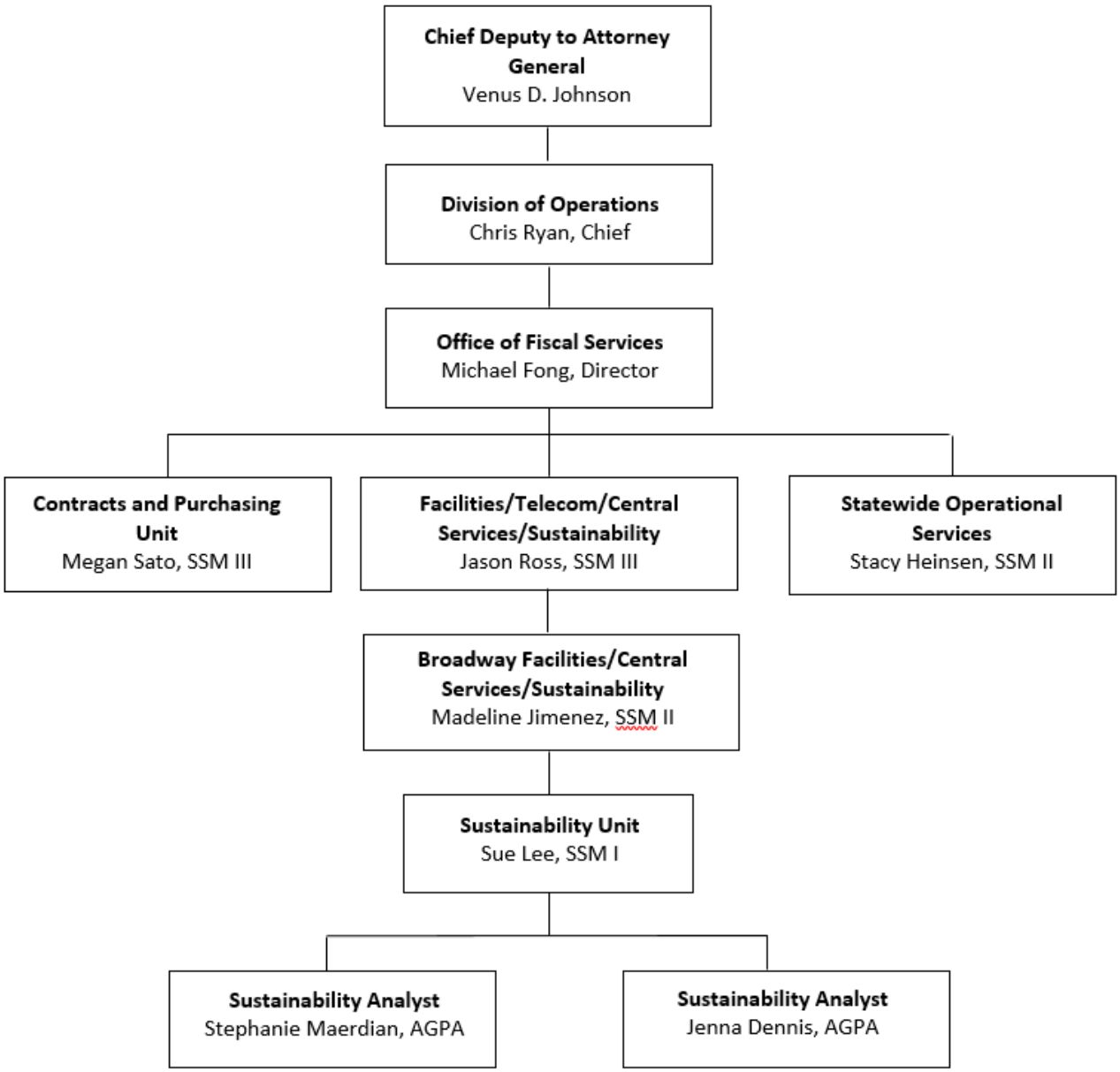
Facility name	Smart Location Calculator Score
REG – Riverside	75
BGC – Sacramento	73
DLE - Sacramento	70
Average	71.8
Baseline (avg. for 2016)	57.5
% change from Baseline	25%

Note for Table 5.7: List 3 of the lowest scoring leases in your department's portfolio.

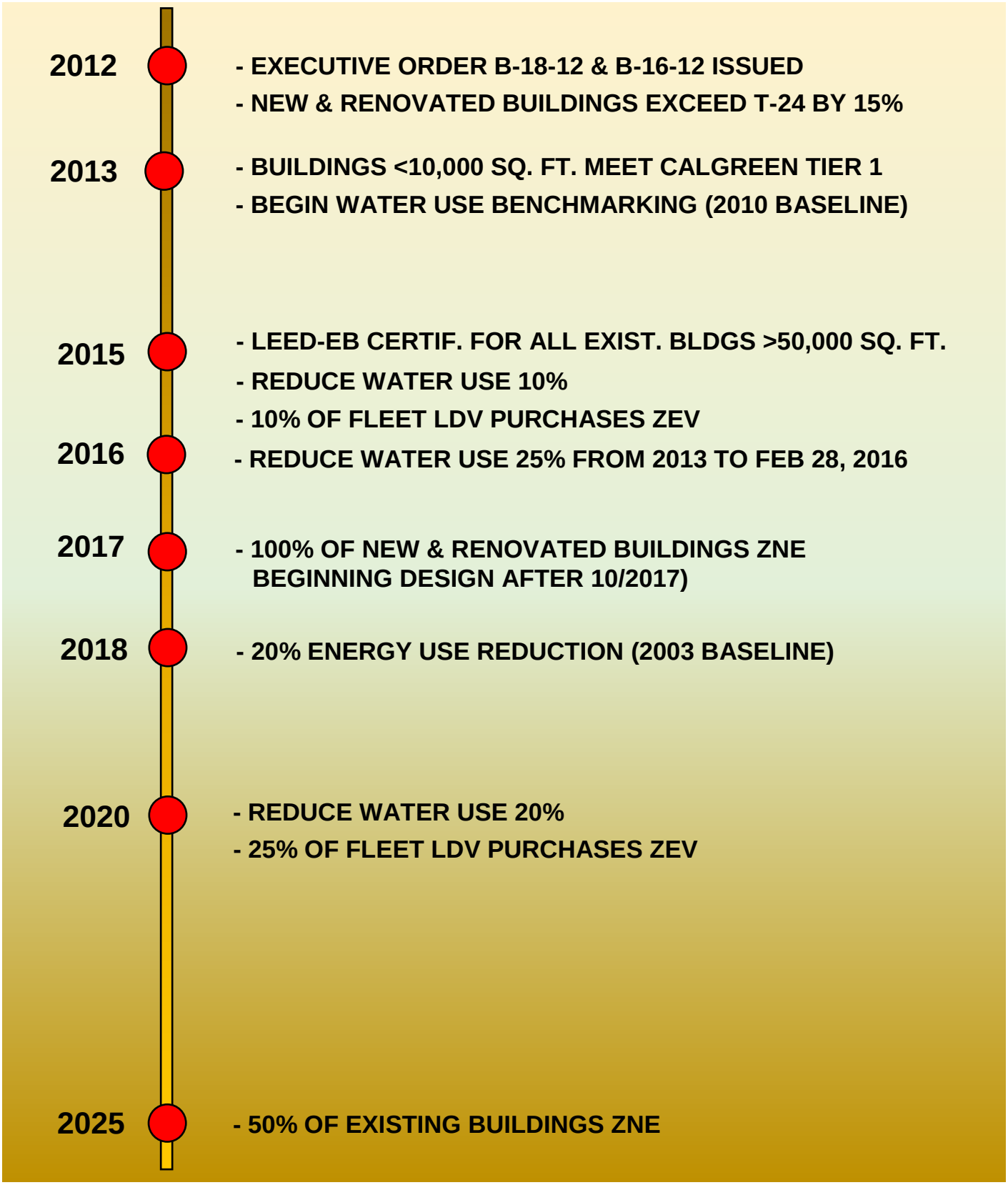
Table 5.7: 3 Lowest Smart Location Score Leases

Facility name	Smart Location Calculator Score
DLE – Fresno	42
DLE - Redding	42
DLE - Chico	55

Appendix A – Sustainability Leadership



Appendix B - Sustainability Milestones & Timeline



Appendix C – Acronyms

Customize to include organizations and acronyms within your specific department

AB	Assembly Bill
ADR	Automated Demand Response
AMB	Asset Management Branch (at DGS)
BMP	Best Management Practices
CA	California
CALGREEN	California Green Building Code (Title 24, Part 11)
CEC	California Energy Commission
DGS	Department of General Services
DWR	Department of Water Resources
EHT	Extreme Heat Threshold
EMS	Energy management system (aka EMCS)
EMCS	Energy management control system (aka EMS)
EO	Executive Order
EPP	Environmentally Preferable Purchasing
ESCO	Energy Service Company
ESPM	Energy Star Portfolio Manager
ETS	Enterprise Technology Solutions (a division at DGS)
EUI	Energy Use Intensity (source kBTU/sq. ft.)
EVSE	Electric Vehicle Supply Equipment (charging equipment)
FMD	Facilities Management Division (a division at DGS)
GCM	Global Circulation Model
GHG	Greenhouse Gas
GHGe	Greenhouse Gas emissions
GSP	Groundwater Sustainability Plan
IEQ	Indoor Environmental Quality
kBTU	Thousand British Thermal Units (unit of energy)

LCM	The Landscape Coefficient Method
LEED	Leadership in Energy and Environmental Design
MAWA	Maximum Applied Water Allowance
MM	Management Memo
MWELO	Model Water Efficient Landscape Ordinance
OBAS	Office of Business and Acquisition Services (at DGS)
OBF	On-Bill Financing
OFAM	Office of Fleet and Asset Management (at DGS)
OS	Office of Sustainability (at DGS)
PMDB	Project Management and Development Branch (at DGS)
PPA	Power Purchase Agreement
PUE	Power Usage Effectiveness
RCP	Representative Concentration Pathway
SABRC	State Agency Buy Recycled Campaign
SARC	State Agency Reporting Center
SAM	State Administrative Manual
SB	Senate Bill
SCM	State Contracting Manual
SGA	Sustainable Groundwater Agency
SGMA	Sustainable Groundwater Management Act
WMC	Water Management Coordinator
WUCOLS	Water Use Classifications of Landscape Species
ZEV	Zero-Emission Vehicle
ZNE	Zero Net Energy

Appendix D - Glossary

Backflow - is the undesirable reversal of the flow of water or mixtures of water and other undesirable substances from any source (such as used water, industrial fluids, gasses, or any substance other than the intended potable water) into the distribution pipes of the potable water system.

Back flow prevention device - a device that prevents contaminants from entering the potable water system in the event of back pressure or back siphonage.

Blowdown - is the periodic or continuous removal of water from a boiler to remove accumulated dissolved solids and/or sludge. Proper control of blowdown is critical to boiler operation. Insufficient blowdown may lead to deposits or carryover. Excessive blowdown wastes water, energy, and chemicals.

Compost - Compost is the product resulting from the controlled biological decomposition of organic material from a feedstock into a stable, humus-like product that has many environmental benefits. Composting is a natural process that is managed to optimize the conditions for decomposing microbes to thrive. This generally involves providing air and moisture, and achieving sufficient temperatures to ensure weed seeds, invasive pests, and pathogens are destroyed. A wide range of material (feedstock) may be composted, such as yard trimmings, wood chips, vegetable scraps, paper products, manures and biosolids. Compost may be applied to the top of the soil or incorporated into the soil (tilling).

Critical overdraft - a condition in which significantly more water has been taken out of a groundwater basin than has been put in, either by natural recharge or by recharging basins. Critical overdraft leads to various undesirable conditions such as ground subsidence and saltwater intrusion.

Ecosystem services - are the direct and indirect contributions of ecosystems to human well-being. They support directly or indirectly our survival and quality of life. Ecosystem services can be categorized in four main types:

- Provisioning services are the products obtained from ecosystems such as food, fresh water, wood, fiber, genetic resources and medicines.

- Regulating services are the benefits obtained from the regulation of ecosystem processes such as climate regulation, natural hazard regulation, water purification and waste management, pollination or pest control.

- Habitat services provide living places for all species and maintain the viability of gene-pools.

- Cultural services include non-material benefits such as spiritual enrichment, intellectual development, recreation and aesthetic values.

Grass cycling - refers to an aerobic (requires air) method of handling grass clippings by leaving them on the lawn when mowing. Because grass consists largely of water (80 percent or more), contains little lignin and has high nitrogen content, grass clippings easily break down during an aerobic process. Grass cycling returns the decomposed clippings to the soil within one to two weeks acting primarily as a fertilizer supplement and, to a much smaller degree, mulch. Grass cycling can provide 15 to 20 percent or more of a lawn's yearly nitrogen requirements

Hydrozone - is a portion of a landscaped area having plants with similar water needs that are served by one irrigation valve or set of valves with the same schedule.

Landscape Coefficient Method (LCM) - describes a method of estimating irrigation needs of landscape plantings in California. It is intended as a guide for landscape professionals.

Landscape water budget - is the calculated irrigation requirement of a landscape based on landscape area, local climate factors, specific plant requirements and the irrigation system performance.

Model Water Efficient Landscape Ordinance (MWELO) - The Water Conservation in Landscaping Act was signed into law on September 29, 1990. The premise was that landscape design, installation, and maintenance can and should be water efficient. Some of the provisions specified in the statute included plant selection and groupings of plants based on water needs and climatic, geological or topographical conditions, efficient irrigation systems, practices that foster long term water conservation and routine repair and maintenance of irrigation systems. Department of Water Resources adopted the Model Ordinance in June of 1992. One element of the Model Ordinance was a landscape water budget. In the water budget approach, a Maximum Applied Water Allowance (MAWA) was established based on the landscape area and the climate where the landscape is located. The latest update to MWELO was in 2015. MWELO applies to all state agencies' landscaping.

Mulch - Mulch is a layer of material applied on top of soil. Examples of material that can be used as mulch include wood chips, grass clippings, leaves, straw, cardboard, newspaper, rocks, and even shredded tires. Benefits of applying mulch include reducing erosion and weeds and increasing water retention and soil vitality. Whenever possible, look for mulch that has been through a sanitization process to kill weed seeds and pests.

Trickle flow - A device that allows users to reduce flow to a trickle while using soap and shampoo. When the device is switched off, the flow is reinstated with the temperature and pressure resumes to previous settings.

Sprinkler system backflow prevention devices – are devices to prevent contaminants from entering water supplies. These devices connect to the sprinkler system and are an important safety feature. They are required by the California Plumbing Code.

Submeter - a metering device installed to measure water use in a specific area or for a specific purpose. Also known as dedicated meters, landscape submeters are effective for separating landscape water use from interior water use, evaluating the landscape water budget and for leak detection within the irrigation system.

Water Budget - A landscape water budget is the calculated irrigation requirement of a landscape based on landscape area, local climate factors, specific plant requirements and the irrigation system performance.

Water-energy nexus - Water and energy are often managed separately despite the important links between the two. Twelve percent of California's energy use is related to water use with nearly 10 percent being used at the end water use. Water is used in the production of nearly every major energy source. Likewise, energy is used in multiple ways and at multiple steps in water delivery and treatment systems as well as wastewater collection and treatment.

Water Shortage Contingency Plans - each urban water purveyor serving more than 3,000 connections or 3,000 acre-feet of water annually must have an Urban Water Shortage Contingency Plan (Water Shortage Plan) which details how a community would react to a reduction in water supply of up to 50 percent for droughts lasting up to three years.

Appendix E – Department Stakeholders

Climate Change Adaptation

Unit	Understanding Climate Risk at Existing Facilities
Sustainability Unit	Sue Lee, Sustainability Manager I Jenna Dennis, Sustainability Analyst Stephanie Maerdian, Sustainability Analyst

Unit	Understanding Climate Risk at Planned Facilities
Sustainability Unit	Sue Lee, Sustainability Manager I Jenna Dennis, Sustainability Analyst Stephanie Maerdian, Sustainability Analyst

Unit	Integrating Climate Change into Department Planning and Funding Programs
Sustainability Unit	Sue Lee, Sustainability Manager I Jenna Dennis, Sustainability Analyst Stephanie Maerdian, Sustainability Analyst

Unit	Measuring and Tracking Progress
Sustainability Unit	Sue Lee, Sustainability Manager I Jenna Dennis, Sustainability Analyst Stephanie Maerdian, Sustainability Analyst

Zero Emission Vehicles

Unit	Incorporating ZEVs Into the Department Fleet
Statewide Operational Services	Stacy Heinsen, Staff Services Manager II

Unit	Telematics
Statewide Operational Services	Stacy Heinsen, Staff Services Manager II

Unit	Public Safety Exemption
N/A	N/A

Unit	Outside Funding Sources for ZEV Infrastructure
Sustainability Unit	Sue Lee, Sustainability Manager I Jenna Dennis, Sustainability Analyst Stephanie Maerdian, Sustainability Analyst

Unit	Hydrogen Fueling Infrastructure
Sustainability Unit	Sue Lee, Sustainability Manager I Jenna Dennis, Sustainability Analyst Stephanie Maerdian, Sustainability Analyst

Unit	Comprehensive Facility Site and Infrastructure Assessments
Sustainability Unit	Sue Lee, Sustainability Manager I Jenna Dennis, Sustainability Analyst Stephanie Maerdian, Sustainability Analyst

Unit	EVSE Construction Plan
Sustainability Unit	Sue Lee, Sustainability Manager I Jenna Dennis, Sustainability Analyst Stephanie Maerdian, Sustainability Analyst

Unit	EVSE Operation
Sustainability Unit	Sue Lee, Sustainability Manager I Jenna Dennis, Sustainability Analyst Stephanie Maerdian, Sustainability Analyst

Energy

Unit	Zero Net Energy (ZNE)
Sustainability Unit	Sue Lee, Sustainability Manager I Jenna Dennis, Sustainability Analyst Stephanie Maerdian, Sustainability Analyst
Facilities Unit	Troy Whitfield, Facilities Manager I

Unit	New Construction Exceeds Title 24 by 15 Percent
N/A	N/A

Unit	Reduce Grid-Based Energy Purchased by 20 Percent by 2018
Sustainability Unit	Sue Lee, Sustainability Manager I Jenna Dennis, Sustainability Analyst Stephanie Maerdian, Sustainability Analyst
Facilities Unit	Troy Whitfield, Facilities Manager I

Unit	Server Room Energy Use
N/A	N/A

Unit	Demand Response
N/A	N/A

Unit	Renewable Energy
Sustainability Unit	Sue Lee, Sustainability Manager Jenna Dennis, Sustainability Analyst

Unit	Renewable Energy
	Stephanie Maerdian, Sustainability Analyst

Unit	Monitoring Based Commissioning (MBCx)
N/A	N/A

Unit	Financing
Sustainability Unit	Sue Lee, Sustainability Manager Jenna Dennis, Sustainability Analyst Stephanie Maerdian, Sustainability Analyst

Water Efficiency and Conservation

Unit	Indoor Water Efficiency Projects In Progress First initiative
Sustainability Unit	Sue Lee, Sustainability Manager I Jenna Dennis, Sustainability Analyst Stephanie Maerdian, Sustainability Analyst
Facilities Unit	Troy Whitfield, Facilities Manager I

Unit	Landscaping Hardware Water Efficiency Projects In Progress
Sustainability Unit	Sue Lee, Sustainability Manager I Jenna Dennis, Sustainability Analyst Stephanie Maerdian, Sustainability Analyst
Facilities Unit	Troy Whitfield, Facilities Manager I

Unit	Living Landscaping Water Efficiency Projects In Progress
Sustainability Unit	Sue Lee, Sustainability Manager I Jenna Dennis, Sustainability Analyst Stephanie Maerdian, Sustainability Analyst
Facilities Unit	Troy Whitfield, Facilities Manager I

Unit	Buildings with Urban Water Shortage Contingency Plans In Progress
Sustainability Unit	Sue Lee, Sustainability Manager I Jenna Dennis, Sustainability Analyst Stephanie Maerdian, Sustainability Analyst
Facilities Unit	Troy Whitfield, Facilities Manager I

Green Operations

Unit	GHG Emissions
Sustainability Unit	Sue Lee, Sustainability Manager Jenna Dennis, Sustainability Analyst Stephanie Maerdian, Sustainability Analyst

Unit	Building Design and Construction
Sustainability Unit	Sue Lee, Sustainability Manager Jenna Dennis, Sustainability Analyst Stephanie Maerdian, Sustainability Analyst
Facilities Unit	Troy Whitfield, Facilities Manager I

Unit	LEED for Existing Buildings Operations and Maintenance
Sustainability Unit	Sue Lee, Sustainability Manager Jenna Dennis, Sustainability Analyst Stephanie Maerdian, Sustainability Analyst

Unit	Indoor Environmental Quality
N/A	N/A

Unit	Integrated Pest Management
Sustainability Unit	Sue Lee, Sustainability Manager Jenna Dennis, Sustainability Analyst Stephanie Maerdian, Sustainability Analyst
Facilities Unit	Troy Whitfield, Facilities Manager I
Contracts and Purchasing Unit	Megan Sato, Staff Services Manager III

Unit	Environmentally Preferable Purchasing
Sustainability Unit	Sue Lee, Sustainability Manager Jenna Dennis, Sustainability Analyst Stephanie Maerdian, Sustainability Analyst
Contracts and Purchasing Unit	Megan Sato, Staff Services Manager III

Unit	Location Efficiency
Sustainability Unit	Sue Lee, Sustainability Manager Jenna Dennis, Sustainability Analyst Stephanie Maerdian, Sustainability Analyst
Facilities	Troy Whitfield, Facilities Manager I

Unit	Waste and Recycling
Sustainability Unit	Sue Lee, Sustainability Manager Jenna Dennis, Sustainability Analyst Stephanie Maerdian, Sustainability Analyst

Appendix F – Sustainability Requirements & Goals

Governor Edmund G. Brown Jr. directed California state agencies to demonstrate sustainable operations and to lead the way by implementing sustainability policies set by the state. Additionally, enacted legislation includes sustainability-related requirements of state facilities and operations. Specific references and background on executive orders, legislation, management memos and other requirements or actions are included in five general chapters within this roadmap, as follows:

- Climate change adaptation
- Zero-emission vehicles
- Energy
- Water efficiency and conservation
- Green operations

These general sustainability initiatives include the following:

- GHG emissions reductions
- Climate change adaptation
- Building energy efficiency and conservation
- Indoor environmental quality (IEQ)
- Water efficiency and conservation
- Monitoring-based Building Commissioning (MBCx)
- Waste and Recycling
- Environmentally Preferable Purchasing (EPP)
- Financing for sustainability
- Zero-Emission Vehicle (ZEV) fleet purchases
- Electric vehicle charging infrastructure
- Monitoring and executive oversight
- Zero Net Energy (ZNE)

Appendix G – Sustainability Background References

The following executive orders, Management Memos, legislative actions, resources and guidance documents provide the sustainability criteria, requirements, and targets tracked and reported herein.

Executive Orders

The governor issued the following executive order relevant to chapters of this roadmap:

- **Executive Order B-16-12**

  EO B-16-12 directs state agencies to integrate zero-emission vehicles (ZEVs) into the state vehicle fleet. It also directs state agencies to develop the infrastructure to support increased public and private sector use of ZEVs. Specifically, it directs state agencies replacing fleet vehicles to replace at least 10 percent with ZEVs, and by 2020 to ensure at least 25 percent of replacement fleet vehicles are ZEVs.

- **Executive Order B-18-12**

  EO B-18-12 and the companion *Green Building Action Plan* require state agencies to reduce the environmental impacts of state operations by reducing GHG emissions, managing energy and water use, improving indoor air quality, generating on-site renewable energy when feasible, implementing environmentally preferable purchasing, and developing the infrastructure for electric vehicle charging stations at state facilities. The Green Building Action Plan also established two oversight groups – the staff-level Sustainability Working Group and the executive-level Sustainability Task Force – to ensure these measures are met. Agencies annually report current energy and water use into the Energy Star Portfolio Manager (ESPM).

- **Executive Order B-29-15**

  EO B-29-15 directs state agencies to take actions in response to the ongoing drought and to the state of emergency due to severe drought conditions proclaimed on January 17, 2014. Governor Brown directed numerous state agencies to develop new programs and regulations to mitigate the effects of the drought, and required increased enforcement of water waste statewide. Agencies were instructed to reduce potable urban water use by 25 percent between 2013 and February 28, 2016.

- **Executive Order B-30-15**

  In 2015, the governor issued EO B-30-15, which declared climate change to be a "threat to the well-being, public health, natural resources, economy and environment of California." It established a new interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 and reaffirms California's intent to reduce GHG emissions to 80 percent below 1990 levels by 2050. To support these goals, this order requires numerous state agencies to develop plans and programs to reduce emissions. It also directs state agencies

to take climate change into account in their planning and investment decisions and employ life-cycle cost accounting to evaluate and compare infrastructure investments and alternatives. State agencies are directed to prioritize investments that both build climate preparedness and reduce GHG emissions; prioritize natural infrastructure; and protect the state's most vulnerable populations.

- **Executive Order B-37-16**

  EO B-37-16 builds on what were formerly temporary statewide emergency water restrictions in order to establish longer-term water conservation measures, including permanent monthly water use reporting; new permanent water use standards in California communities; and bans on clearly wasteful practices such as hosing off sidewalks, driveways and other hardscapes. The EO focuses on using water more wisely and eliminating water waste by taking actions to minimize water system leaks. The California Department of Water Resources (DWR) estimates that leaks in water district distribution systems siphon away more than 700,000 acre-feet of water a year in California – enough to supply 1.4 million homes for a year.

  The EO further strengthens local drought resilience and looks to improve agricultural water use efficiency and drought planning. State agencies are to cooperate with urban water management plans, which include plans for droughts lasting for at least five years by assuring that the water efficiency and conservation plan has drought contingency actions.

State Administrative Manual & Management Memos

The following section of the State Administrative Manual (SAM), and associated Management Memos (MMs) currently impose sustainability requirements on the department under the governor's executive authority:

- **SAM Chapter 1800**: Energy and Sustainability
- **SAM Chapter 1900:** Waste Prevention and Recycling of Non-Hazardous Waste
- **MM 14-02:** Water Efficiency and Conservation
- **MM 14-05**: Indoor Environmental Quality: New, Renovated, And Existing Buildings
- **MM 14-07**: Standard Operating Procedures for Energy Management in State Buildings
- **MM 14-09**: Energy Efficiency in Data Centers and Server Rooms
- **MM 15-03**: Minimum Fuel Economy Standards Policy
- **MM 15-04**: Energy Use Reduction for New, Existing, and Leased Buildings
- **MM 15-06**: State Buildings and Grounds Maintenance and Operation
- **MM 15-07**: Diesel, Biodiesel, and Renewable Hydrocarbon Diesel Bulk Fuel Purchases

- **MM 16-07**: Zero-Emission Vehicle Purchasing and EVSE Infrastructure Requirements (SAM Section 4121.4)
- **MM 17-04**: Zero Net Energy for New and Existing State Buildings

Legislative Actions

Recent legislation also strengthens some of the executive orders and enhances California sustainability goals, or provided further requirements included in the policies. These include the following:

- **Assembly Bill (AB) 1482** (Gordon, 2015): Requires that the California Natural Resources Agency (CNRA) update the state's adaptation strategy safeguarding California every three years. Directs state agencies to promote climate adaptation in planning decisions and ensure that state investments consider climate change impacts, as well as the use of natural systems and natural infrastructure. (Public Resources Code Section 71153)
- **Senate Bill (SB) 246** (Wieckowski, 2015): Established the Integrated Climate Adaptation and Resiliency Program within the Governor's Office of Planning and Research to coordinate regional and local efforts with state climate adaptation strategies to adapt to the impacts of climate change. (Public Resources Code Section 71354)
- **AB 2800** (Quirk, 2016): Requires state agencies to take the current and future impacts of climate change into planning, designing, building, operating, maintaining and investing in state infrastructure. CNRA will establish a Climate-Safe Infrastructure Working Group to determine how to integrate climate change impacts into state infrastructure engineering. (Public Resources Code Section 71155)
- **AB 4**: Passed in 1989. The State Agency Buy Recycled Campaign (SABRC) statutes are in Public Contract Code Section 12153-12217. The intent of SABRC is to stimulate markets for materials diverted by California local government and agencies. It requires state agencies to purchase enough recycled-content products to meet annual targets, report on purchases of recycled and non-recycled products, and submit plans for meeting the annual goals for purchasing recycled-content products.
- **AB 32 Scoping Plan**: The scoping plan assumes widespread electrification of the transportation sector as a critical component of every scenario that leads to the mandated 40 percent reduction in GHG by 2030 and 80 percent reduction by 2015.
- **AB 341** (Chesburo, 2011): Bill makes a legislative declaration that it is the policy goal, of the state of California, that not less than 75 percent of solid waste generated be source reduced, recycled, or composted by the year 2020.
- **AB 1826** (Chesburo, 2014): Requires businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of organic waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to

divert organic waste generated by businesses, including State Agencies that meet the progressive thresholds.

- **AB 2396** (McCarty, 2016): Each state agency is required to include in its existing annual report to CalRecycle specified information on the state agency's compliance with mandatory commercial recycling requirements, pursuant to AB 341, and mandatory commercial organics recycling requirements, pursuant to AB 1826.

- **AB 2812** (Gordon, 2016): As of January 1, 2017, each state agency is required to provide adequate receptacles, signage, education, and staffing, and arrange for recycling services consistent with existing recycling requirements for each office building of the state agency or large state facility. The bill requires, at least once per year, each covered state agency and large state facility to review the adequacy and condition of receptacles for recyclable material and of associated signage, education, and staffing. Additionally, the bill requires each state agency to include in its existing annual report to CalRecycle a summary of the state agency's compliance with the act.

- **SB 1016** (Wiggins, 2008): The Per Capita Disposal Measurement System Act changed the way state agencies and local governments measure their progress toward meeting the statutory waste diversion mandates. State agencies and large state facilities now use per capita disposal as an indicator of their compliance with the 50 percent waste diversion requirement. Compliance is also determined by diversion program implementation.

- **AB 2583** (Blumenfield 2012): Public Resources Code §25722.8: Statute requires reducing consumption of petroleum products by the state fleet compared to a 2003 baseline. Mandates a 10 percent reduction or displacement by Jan. 1, 2012 and a 20 percent reduction or displacement by Jan. 1, 2020.

Action Plan

- **2018 Zero-Emission Vehicle Action Plan**

  The plan establishes a goal to provide electric vehicle charging to 5 percent of state-owned parking spaces by 2022. It also advances the ZEV procurement target to 50 percent of light-duty vehicles by 2025.

State Resources and Guidance Documents

California has invested significant resources in understanding the risks of climate change, water efficiency, strategic growth, and state actions available to respond to and reduce these risks. These include the following:

- **Safeguarding California**: The state's climate adaptation strategy organized by sector. Each sector identifies risks from climate change and actions to reduce those risks.
- **Safeguarding California Implementation Action Plans**: Directed under EO B-30-15, the Implementation Action Plans outline the steps that will be taken in each sector to reduce risks from climate change.
- **Planning and Investing for a Resilient California**: Prepared under direction of EO B-30-15, this document provides a framework for state agencies to integrate climate change into planning and investment, including guidance on data selection and analytical approach.
- **California's Climate Change Assessments**: California has completed three comprehensive assessments of climate change impacts on California. Each assessment has included development of projections of climate impacts on a scale that is relevant to state planning (i.e., downscaled climate projections). These data are available through **Cal-Adapt**, an online data visualization and access tool.
- **Water Use Reduction Guidelines and Criteria**: Issued by the California Department of Water Resources February 28, 2013, pursuant to Executive Order B-18-12. Each applicable agency was required to take actions to reduce water use in facilities and landscapes that are operated by the state, including owned, funded or leased facilities. State-operated facilities are defined as facilities where the agency has direct control of the buildings' function, maintenance and repair. For leased facilities, the Green Building Action Plan directed at that time that new and renegotiated leases include provisions for water conservation, reporting water use, and installation of sub-meters to the extent possible and economically feasible.
- **Strategic Growth Council (SGC) Resolution on Location Efficiency**: Location efficiency refers to the GHG emissions arising from the transportation choices of employees and visitors to a building as determined by the Smart Location Calculator. Adopted on December 6, 2016, the resolution directs members of the SGC to achieve a ten percent improvement in the Smart Location Score of new leases compared to the average score of leased facilities in 2016.

Table G-1: Background References and Applicable Roadmap Chapters

	Climate Adaptation	ZEV	Energy	Water	Green Operation
Executive Orders:					
EO B-16-12		X			X
EO B-18-12		X	X	X	X
EO B-29-15				X	
EO B-30-15	X	X	X		X
EO B-37-16				X	
Management Memos					
MM 14-02				X	
MM 14-05			X		X
MM 14-07			X		X
MM 14-09			X		
MM 15-03		X	X		
MM 15-04			X		X
MM 15-06			X	X	X
MM 15-07		X			
MM 16-07		X			
MM 17-04			X		
Legislative Actions					
SB 246	X				
SB 1016					X
SB 2800	X				
AB 4					X
AB 32	X	X			
AB 341					X
AB 1482	X				
AB 1826					X
AB 2396					X
AB 2812					X
Action Plans					
2018 ZEV Action Plan		X			
State Resources and Guidance Documents					
Cal-Adapt	X				
California's Climate Change Assessments	X				
Public Resources Code §25722.8		X			

	Climate Adaptation	ZEV	Energy	Water	Green Operation
Planning and Investing for a Resilient California	X				
Safeguarding California	X				
Safeguarding CA Implementation Action Plan	X				
Sustainable Groundwater Management Act of 2014				X	

Appendix H - List of Tables & Graphs